# STIC Search Report
EIC 1700

## STIC Database Tracking Number: 170702

**TO: Michael Bernshteyn**
**Location: REM 10D18**
**Art Unit : 1713**
**November 9, 2005**

**Case Serial Number: 10/537120**

**From: Kathleen Fuller**
**Location: EIC 1700**
**REMSEN 4B28**
**Phone: 571/272-2505**
**Kathleen.Fuller@uspto.gov**

## Search Notes

There were 232 structures from the query covering formula 1 in claim 1. There were 127 Ca references from the structures. Limiting the references to preparations and resists gave 22 references.

# STIC Search Results Feedback Form

USPTO

## EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1713*
- *Relevant prior art* ***found****, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art* ***not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

**Comments:**

Access DB# 170102

# SEARCH REQUEST FORM

**Scientific and Technical Information Center**

Requester's Full Name: Michael Beumskeng Examiner # : 81515 Date: 11/4/05
Art Unit: 1713 Phone Number 30 22491 Serial Number: 10/537120
Mail Box and Bldg/Room Location: 10D18 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

**********

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please, find the formula (1) in claim (1). of the carboxylic acid hemiacetal ester.

Thank you,

M. Beu



**********

**STAFF USE ONLY**

Searcher: K. Fuller

Searcher Phone #: _____

Searcher Location: _____

**Type of Search**

NA Sequence (#)_____

AA Sequence (#)_____

**Vendors and cost where applicable**

STN ✓

Dialog _____

=> file reg
FILE 'REGISTRY' ENTERED AT 12:08:57 ON 09 NOV 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.


Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 7 NOV 2005 HIGHEST RN 866913-62-4
DICTIONARY FILE UPDATES: 7 NOV 2005 HIGHEST RN 866913-62-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

**********
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
**********

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

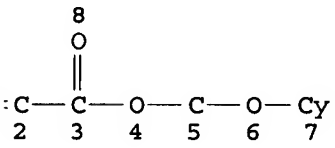
=> file hcaplu
FILE 'HCAPLUS' ENTERED AT 12:09:02 ON 09 NOV 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.


FILE COVERS 1907 - 9 Nov 2005 VOL 143 ISS 20
FILE LAST UPDATED: 8 Nov 2005 (20051108/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que l14
L3 STR




232 structures from this query covering formula 1 in claim 1

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

| | | | |
|---|---|---|---|
| L5 | 232 | SEA FILE=REGISTRY SSS FUL L3 | |
| L6 | 127 | SEA FILE=HCAPLUS ABB=ON | L5 |
| L7 | 73 | SEA FILE=HCAPLUS ABB=ON | L6(L)PREP/RL |
| L8 | 28 | SEA FILE=HCAPLUS ABB=ON | L7 AND ?RESIST? |
| L9 | 39 | SEA FILE=HCAPLUS ABB=ON | L7 AND PHOTOCHEM?/SC,SX |
| L11 | 21 | SEA FILE=HCAPLUS ABB=ON | L8 AND L9 |
| L12 | 7 | SEA FILE=HCAPLUS ABB=ON | L8 NOT L11 |
| L13 | 1 | SEA FILE=HCAPLUS ABB=ON | L12 AND HEMIACETAL |
| L14 | 22 | SEA FILE=HCAPLUS ABB=ON | L11 OR L13 |

22 CA references with preparation and ? resist ?

=> d l14 ibib abs ind hitstr 1-22

L14 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:1103241 HCAPLUS
TITLE: Positive **photoresist** compositions and patterning process
INVENTOR(S): Hatakeyama, Jun; Kaneko, Tatsushi
PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 44 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2005227174 | A1 | 20051013 | US 2005-101591 | 20050408 |
| PRIORITY APPLN. INFO.: | | | JP 2004-115088 A | 20040409 |

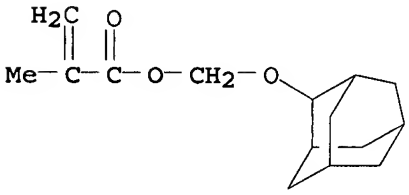
AB A polymer which is obtained from a combination of (meth)acrylate having a bridged ring lactone group and (meth)acrylate having an acid leaving group with a hexafluoroalc. group is used as a base resin to formulate a pos. **resist** composition which when exposed to high-energy radiation and developed, exhibits a high sensitivity, a high resolution, and a minimal line edge roughness due to controlled swell during development. The composition also has excellent dry etching **resistance.**

IC ICM G03C001-492
INCL 430270100

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
ST pos **photoresist** compn patterning process photolithog
IT Photolithography
Positive **photoresists**
(pos. **photoresist** compns. and patterning process)
IT 866611-99-6P 866612-00-2P 866612-01-3P 866612-02-4P 866612-04-6P
866612-05-7P 866612-07-9P **866612-08-0P**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(pos. **photoresist** compns. and patterning process containing)
IT **866612-08-0P**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(pos. **photoresist** compns. and patterning process containing)
RN 866612-08-0 HCAPLUS
CN INDEX NAME NOT YET ASSIGNED

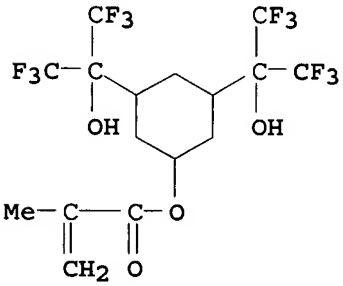
CM 1

CRN 791611-93-3
CMF C15 H22 O3



CM 2

CRN 781637-36-3
CMF C16 H16 F12 O4



CM 3

CRN 274248-05-4
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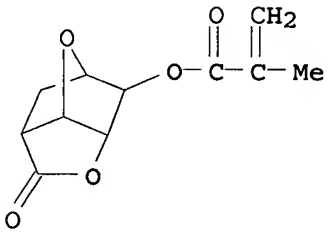
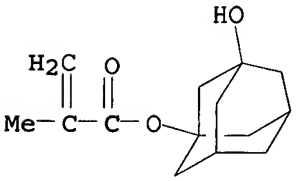


CM 4

CRN 115372-36-6
CMF C14 H20 O3



L14 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:1003297 HCAPLUS
DOCUMENT NUMBER: 143:288053
TITLE: Epoxy-containing resin compositions for color filter protective coatings with good flatness, transparency, and surface hardness
INVENTOR(S): Baba, Atsushi; Yamazaki, Natsuki; Nishikawa, Michinori
PATENT ASSIGNEE(S): JSR Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | | DATE |
|---|---|---|---|---|---|
| JP 2005248129 | A2 | 20050915 | JP 2004-64346 | | 20040308 |
| PRIORITY APPLN. INFO.: | | | JP 2003-62696 | A | 20030310 |
| | | | JP 2003-397908 | A | 20031127 |
| | | | JP 2004-27180 | A | 20040203 |

AB Title compns. comprise (A) polymers with weight average mol. weight ≥2000 (GPC measurement based on polystyrene standard) having epoxy structures and ≥1 structure selected from carboxylic acid acetal ester structures, carboxylic acid ketal ester structures, and carboxylic acid tert-Bu ester structures and (B) compds. having ≥2 epoxy structures excluding A. Thus, styrene 25, 1-(cyclohexyloxy)ethyl methacrylate 20, glycidyl methacrylate 45, and tricyclo[5.2.1.02,6]decan-8-yl methacrylate were polymerized at 70° to give a copolymer with Mw 20,000 and polydispersity 2.5, 100 parts of which was mixed with Epikote 157S65 10.0, SH 28PA (surfactant) 0.1, γ-glycidoxypropyltrimethoxysilane 15, and benzoyl-2-methyl-4-hydroxyphenylmethylsulfonium hexafluoroantominate 1 parts, applied on a glass substrate, prebaked at 80° for 5 min, and

heat-treated at 230° for 60 min to give a protective coating, showing good heat **resistance**, transparency, flatness, adhesion, pencil hardness 4H, and dynamic microhardness 29 at 23° and 25 at 140°.

IC ICM C08G059-42
ICS G02F001-1335

CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): **74**

ST epoxy contg resin compn color filter protective coating flatness; styrene cyclohexyloxyethyl methacrylate glycidyl methacrylate tricyclodecanyl methacrylate Epikote copolymer

IT Epoxy resins, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)

IT Transparent materials
(coatings; epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)

IT Coating materials
Optical filters
(epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)

IT Epoxy resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)

IT Coating materials
(transparent; epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)

IT **824955-64-8P** **824955-65-9P** 824955-66-0P, N-Cyclohexylmaleimide-Epikote 157S65-glycidyl methacrylate-styrene-tetrahydro-2H-pyran-2-yl methacrylate copolymer 824955-67-1P **864376-38-5P** 864376-39-6P 864376-40-9P 864376-41-0P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)

IT **864376-32-9P** 864376-33-0P **864376-34-1P** 864376-35-2P 864376-36-3P 864376-37-4P
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(intermediate; epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)

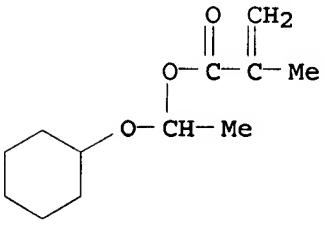
IT **824955-64-8P** **824955-65-9P** **864376-38-5P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)

RN 824955-64-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with Epikote 157S65, ethenylbenzene, octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 143556-62-1
CMF C12 H20 O3



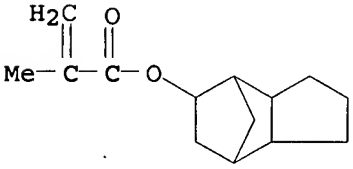
CM 2

CRN 137598-82-4
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

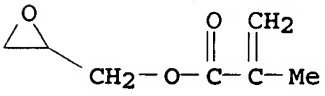
CM 3

CRN 34759-34-7
CMF C14 H20 O2



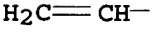
CM 4

CRN 106-91-2
CMF C7 H10 O3



CM 5

CRN 100-42-5
CMF C8 H8

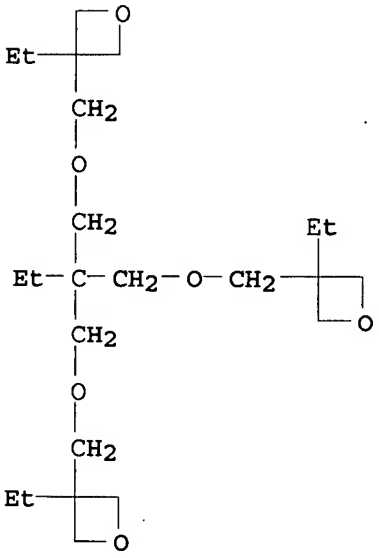


RN 824955-65-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with ethenylbenzene, 3,3'-[[2-ethyl-2-[[(3-ethyl-3-oxetanyl)methoxy]methyl]-1,3-propanediyl]bis(oxymethylene)]bis[3-ethyloxetane], octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

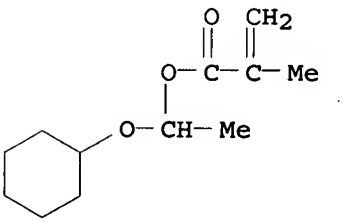
CM 1

CRN 180423-87-4
CMF C24 H44 O6



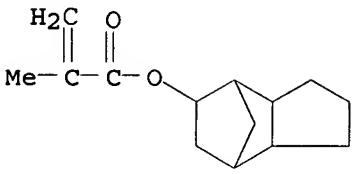
CM 2

CRN 143556-62-1
CMF C12 H20 O3



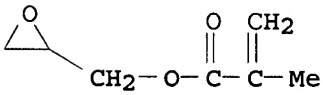
CM 3

CRN 34759-34-7
CMF C14 H20 O2



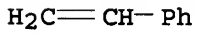
CM 4

CRN 106-91-2
CMF C7 H10 O3



CM 5

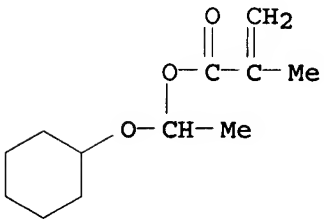
CRN 100-42-5
CMF C8 H8



RN 864376-38-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with 1-cyclohexyl-1H-pyrrole-2,5-dione, Epikote 157S65, ethenylbenzene and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 143556-62-1
CMF C12 H20 O3



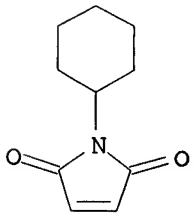
CM 2

CRN 137598-82-4
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 1631-25-0
CMF C10 H13 N O2



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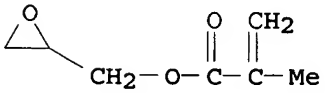

CM 5

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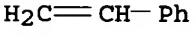
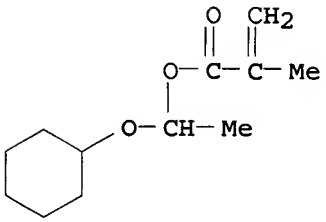
CMF C8 H8



IT **864376-32-9P 864376-34-1P**
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(intermediate; epoxy-containing resin compns. for color filter protective coatings with good flatness, transparency, and surface hardness)
RN 864376-32-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with ethenylbenzene, octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

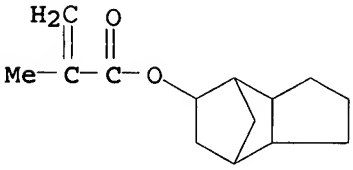
CM 1

CRN 143556-62-1
CMF C12 H20 O3



CM 2

CRN 34759-34-7
CMF C14 H20 O2



CM 3

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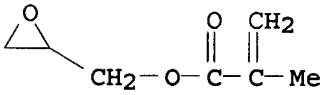
CMF C7 H10 O3



CM 4

CRN 100-42-5
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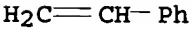
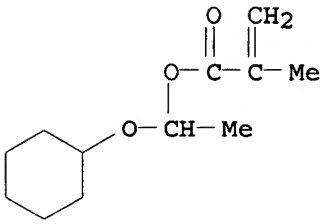


RN 864376-34-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with 1-cyclohexyl-1H-pyrrole-2,5-dione, ethenylbenzene and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 143556-62-1
CMF C12 H20 O3



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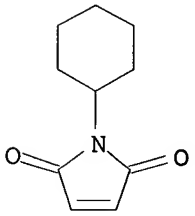
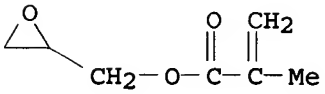


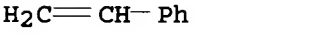
CM 3

CRN 106-91-2
CMF C7 H10 O3



CM 4

CRN 100-42-5
CMF C8 H8



L14 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:962319 HCAPLUS
DOCUMENT NUMBER: 143:257069
TITLE: Polymer compound, **photoresist** composition containing such polymer compound, and method for forming **resist** pattern
INVENTOR(S): Ogata, Toshiyuki; Matsumaru, Syogo; Kinoshita, Yohei; Hada, Hideo; Shiono, Daiju; Shimizu, Hiroaki; Kubota, Naotaka

PATENT ASSIGNEE(S): Tokyo Ohka Kogyo Co., Ltd., Japan
SOURCE: PCT Int. Appl., 91 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2005080473 | A1 | 20050901 | WO 2005-JP1228 | 20050128 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

| PRIORITY APPLN. INFO.: | | |
|---|---|---|
| JP 2004-45522 | A | 20040220 |
| JP 2004-134585 | A | 20040428 |
| JP 2004-179475 | A | 20040617 |
| JP 2004-252474 | A | 20040831 |
| JP 2004-316960 | A | 20041029 |

AB Disclosed is a polymer compound which enables to obtain a highly sensitive **photoresist** composition which forms a fine pattern with excellent resolution and good rectangular shape and is capable of obtaining good **resist** characteristics even when the acid generated by an acid generator is weak. Also disclosed are a **photoresist** composition using such a polymer compound and a method for forming a **resist** pattern using such a **photoresist** composition The **photoresist** composition and **resist** pattern-forming method use a polymer compound having an alkali-soluble group (i) which is at least one substituent selected from an alc. hydroxyl group, a carboxyl group and a phenolic hydroxyl group and protected by an acid-cleavable dissoln. inhibiting group (ii) represented by general formula -CH2-O-(-CH2)n-R1 wherein R1 represents an alicyclic group having 20 or less carbon atoms which may have an oxygen, nitrogen, sulfur or halogen atom; and n represents 0 or an integer of 1-5.

IC ICM C08G085-00
ICS G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37

ST polymer compd **photoresist** compn **resist**

IT Photolithography
**Photoresists**
(polymer compound, **photoresist** composition containing such polymer compound, and method for forming **resist** pattern)

IT 50-00-0, Formaldehyde, reactions 79-41-4, Methacrylic acid, reactions 700-57-2, 2-Hydroxyadamantane 770-71-8, 1-Adamantanemethanol 7647-01-0, Hydrogen chloride, reactions 26278-43-3, 4-Hydroxy-2-adamantanone
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymer compound, **photoresist** composition containing such polymer compound, and method for forming **resist** pattern)

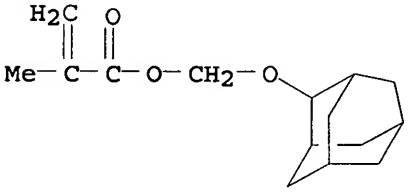
IT 177609-29-9P 720682-48-4P 720682-49-5P **791611-93-3P** **863198-25-8P**

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(polymer compound, **photoresist** composition containing such polymer compound, and method for forming **resist** pattern)

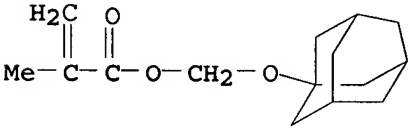
IT 196314-61-1P **791611-94-4P 863198-26-9P 863198-27-0P 863198-28-1P 863198-29-2P 863198-30-5P** 863198-32-7P 863198-33-8P 863198-35-0P 863198-37-2P 863198-39-4P **863208-62-2P** 863208-63-3P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polymer compound, **photoresist** composition containing such polymer compound, and method for forming **resist** pattern)

IT **791611-93-3P 863198-25-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(polymer compound, **photoresist** composition containing such polymer compound, and method for forming **resist** pattern)

RN 791611-93-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, (tricyclo[3.3.1.13,7]dec-2-yloxy)methyl ester (9CI) (CA INDEX NAME)



RN 863198-25-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl ester (9CI) (CA INDEX NAME)

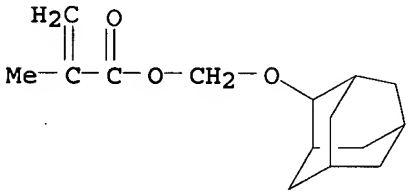


IT **791611-94-4P 863198-26-9P 863198-27-0P 863198-28-1P 863198-29-2P 863198-30-5P 863208-62-2P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(polymer compound, **photoresist** composition containing such polymer compound, and method for forming **resist** pattern)

RN 791611-94-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester, polymer with (tricyclo[3.3.1.13,7]dec-2-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

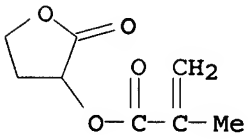
CM 1

CRN 791611-93-3
CMF C15 H22 O3



CM 2

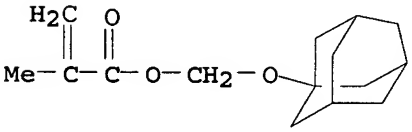
CRN 195000-66-9
CMF C8 H10 O4



RN 863198-26-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester, polymer with (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

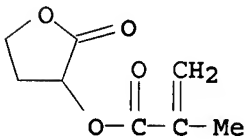
CM 1

CRN 863198-25-8
CMF C15 H22 O3



CM 2

CRN 195000-66-9
CMF C8 H10 O4

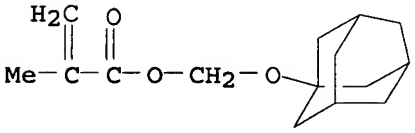


RN 863198-27-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate and (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA

INDEX NAME)

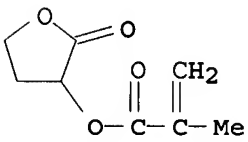
CM 1

CRN 863198-25-8
CMF C15 H22 O3



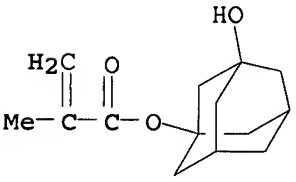
CM 2

CRN 195000-66-9
CMF C8 H10 O4



CM 3

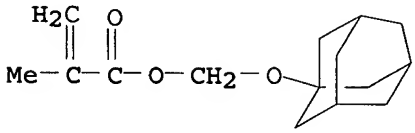
CRN 115372-36-6
CMF C14 H20 O3



RN 863198-28-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester, polymer with 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-propenoate and (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

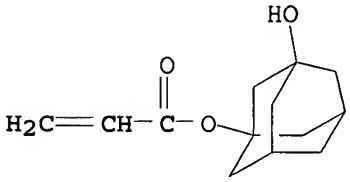
CM 1

CRN 863198-25-8
CMF C15 H22 O3



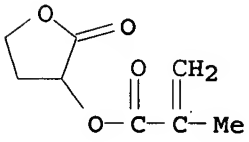
CM 2

CRN 216581-76-9
CMF C13 H18 O3



CM 3

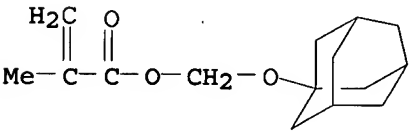
CRN 195000-66-9
CMF C8 H10 O4



RN 863198-29-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, octahydro-1-oxo-4,7-methanoisobenzofuran-5-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate and (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

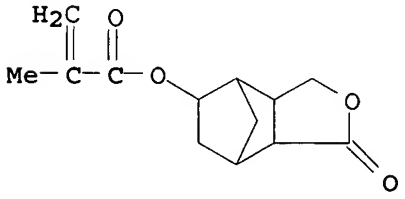
CM 1

CRN 863198-25-8
CMF C15 H22 O3



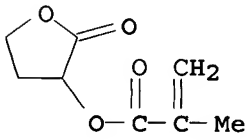
CM 2

CRN 386729-67-5
CMF C13 H16 O4



CM 3

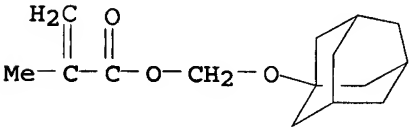
CRN 195000-66-9
CMF C8 H10 O4



RN 863198-30-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, tetrahydro-2-oxo-3-furanyl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

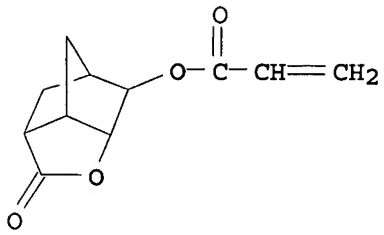
CM 1

CRN 863198-25-8
CMF C15 H22 O3



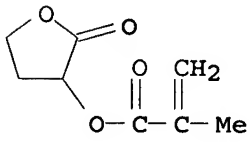
CM 2

CRN 242129-35-7
CMF C11 H12 O4



CM 3

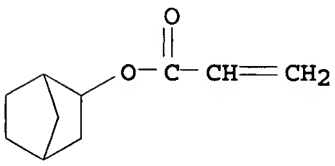
CRN 195000-66-9
CMF C8 H10 O4

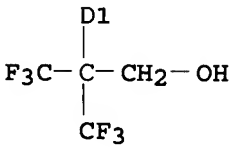


RN 863208-62-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, (tricyclo[3.3.1.13,7]dec-2-yloxy)methyl ester, polymer with 5(or 6)-[2,2,2-trifluoro-1-(hydroxymethyl)-1-(trifluoromethyl)ethyl]bicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

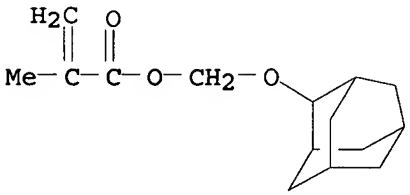
CRN 792916-52-0
CMF C14 H16 F6 O3
CCI IDS





CM 2

CRN 791611-93-3
CMF C15 H22 O3



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:960463 HCAPLUS
DOCUMENT NUMBER: 143:275609
TITLE: Positive-working **photoresist** composition and method for pattern formation using the same
INVENTOR(S): Iwato, Kaoru
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2005234450 | A2 | 20050902 | JP 2004-46286 | 20040223 |
| PRIORITY APPLN. INFO.: | | | JP 2004-46286 | 20040223 |

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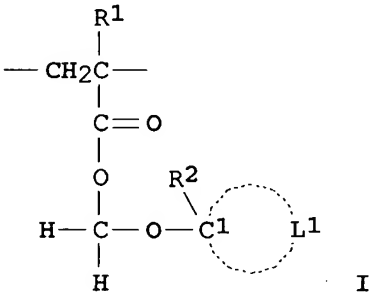


I

AB The title composition contains an acid-sensitive alkali-solubilizable resin and a photoacid generator, wherein the resin contains a repeating unit I(R1 = H, alkyl; Ra2 = H, mono-valent organic group; L1, C1 = cyclic group residue). The composition provides good profile pattern with decreased dependence on post exposure baking temperature, exposure margin, and process margin.
IC ICM G03F007-039
ICS H01L021-027
CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37
ST pos **photoresist** compn resin
IT Photolithography

Positive **photoresists**
(pos.-working **photoresist** composition and method for pattern formation using the same)

IT **863512-95-2P 863512-97-4P 863512-99-6P**
**863513-01-3P** 863513-03-5P **863513-05-7P**
**863513-08-0P 863513-10-4P 863513-12-6P**
863513-14-8P **863513-16-0P 863513-18-2P**
**863513-20-6P 863513-22-8P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(resin in pos.-working **photoresist** composition)

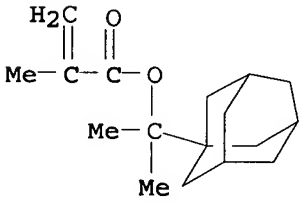
IT **863512-95-2P 863512-97-4P 863512-99-6P**
**863513-01-3P 863513-05-7P 863513-08-0P**
**863513-10-4P 863513-12-6P 863513-16-0P**
**863513-18-2P 863513-20-6P 863513-22-8P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(resin in pos.-working **photoresist** composition)

RN 863512-95-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, (cyclohexyloxy)methyl ester, polymer with 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and 1-methyl-1-tricyclo[3.3.1.13,7]dec-1-ylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

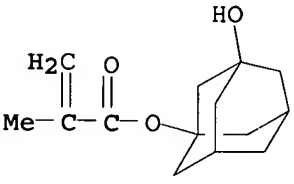
CM 1

CRN 279218-76-7
CMF C17 H26 O2



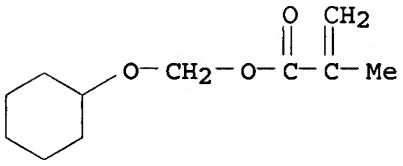
CM 2

CRN 115372-36-6
CMF C14 H20 O3



CM 3

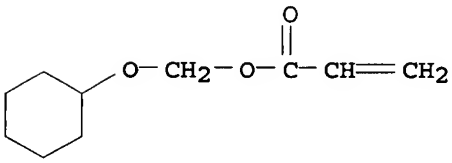
CRN 76392-19-3
CMF C11 H18 O3



RN 863512-97-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with (cyclohexyloxy)methyl 2-propenoate and 1-methyl-1-tricyclo[3.3.1.13,7]dec-1-ylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 857899-59-3
CMF C10 H16 O3



CM 2

CRN 279218-76-7
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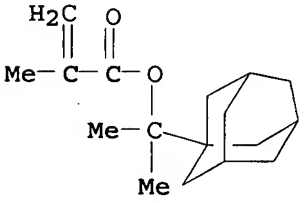
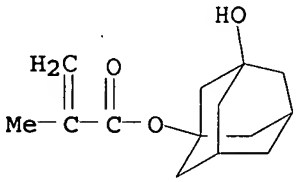


CM 3

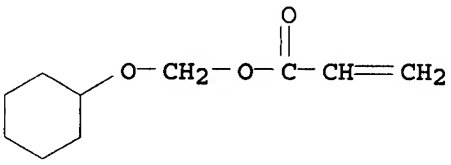
CRN 115372-36-6
CMF C14 H20 O3



RN 863512-99-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, (cyclohexyloxy)methyl ester, polymer with (cyclohexyloxy)methyl 2-propenoate, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and 1-methyl-1-tricyclo[3.3.1.13,7]dec-1-ylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

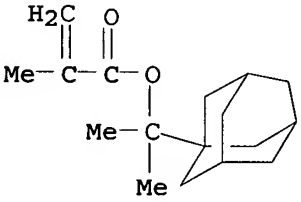
CM 1

CRN 857899-59-3
CMF C10 H16 O3



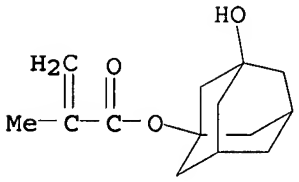
CM 2

CRN 279218-76-7
CMF C17 H26 O2



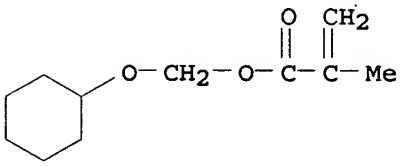
CM 3

CRN 115372-36-6
CMF C14 H20 O3



CM 4

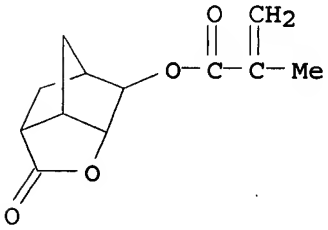
CRN 76392-19-3
CMF C11 H18 O3



RN 863513-01-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, (cyclohexyloxy)methyl ester, polymer with 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

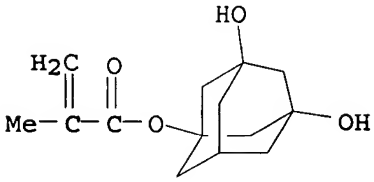
CM 1

CRN 254900-07-7
CMF C12 H14 O4



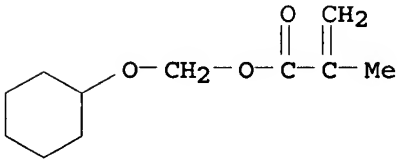
CM 2

CRN 115522-15-1
CMF C14 H20 O4



CM 3

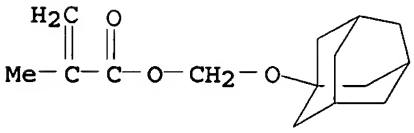
CRN 76392-19-3
CMF C11 H18 O3



RN 863513-05-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

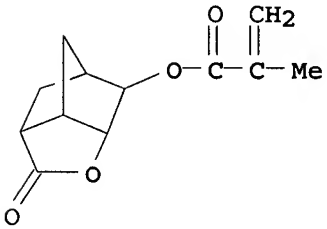
CM 1

CRN 863198-25-8
CMF C15 H22 O3



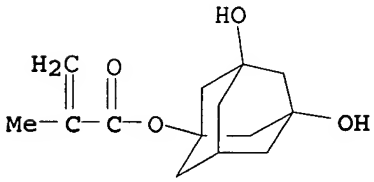
CM 2

CRN 254900-07-7
CMF C12 H14 O4



CM 3

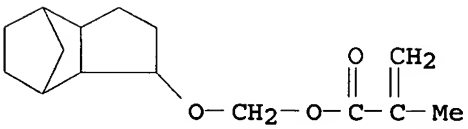
CRN 115522-15-1
CMF C14 H20 O4



RN 863513-08-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-propenoate and [(octahydro-4,7-methano-1H-inden-1-yl)oxy]methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

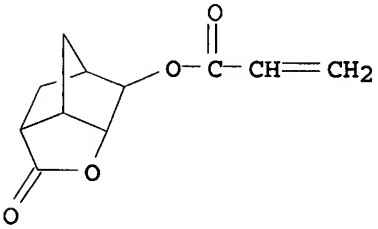
CM 1

CRN 863513-07-9
CMF C15 H22 O3



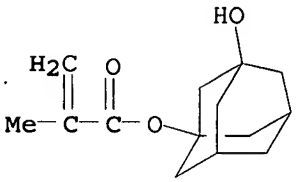
CM 2

CRN 242129-35-7
CMF C11 H12 O4



CM 3

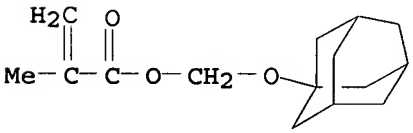
CRN 115372-36-6
CMF C14 H20 O3



RN 863513-10-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-propenoate and (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

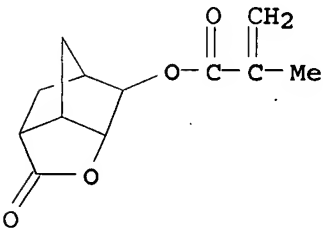
CM 1

CRN 863198-25-8
CMF C15 H22 O3



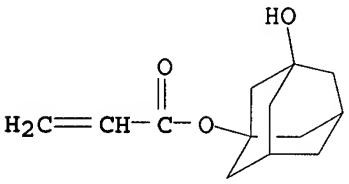
CM 2

CRN 254900-07-7
CMF C12 H14 O4



CM 3

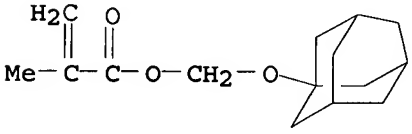
CRN 216581-76-9
CMF C13 H18 O3



RN 863513-12-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 2-ethyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

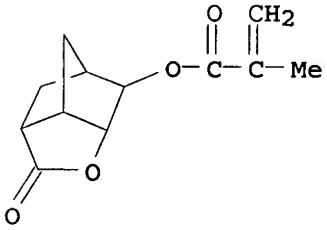
CM 1

CRN 863198-25-8
CMF C15 H22 O3



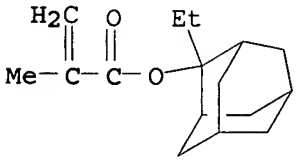
CM 2

CRN 254900-07-7
CMF C12 H14 O4



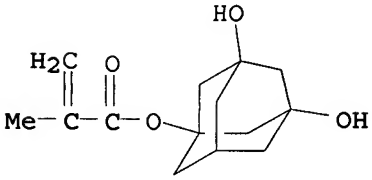
CM 3

CRN 209982-56-9
CMF C16 H24 O2



CM 4

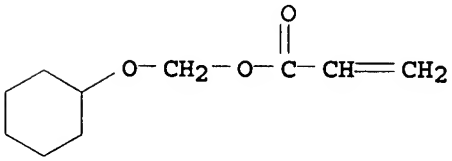
CRN 115522-15-1
CMF C14 H20 O4



RN 863513-16-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with (cyclohexyloxy)methyl 2-propenoate, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

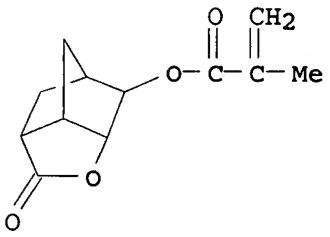
CM 1

CRN 857899-59-3
CMF C10 H16 O3



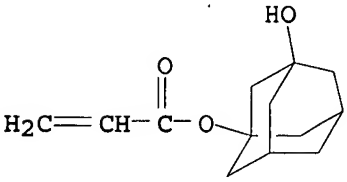
CM 2

CRN 254900-07-7
CMF C12 H14 O4



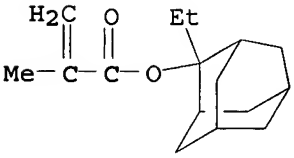
CM 3

CRN 216581-76-9
CMF C13 H18 O3



CM 4

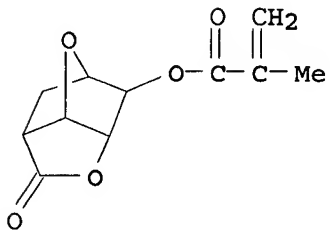
CRN 209982-56-9
CMF C16 H24 O2



RN 863513-18-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, (cyclohexyloxy)methyl ester, polymer with 2-ethyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate, hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl 2-methyl-2-propenoate and 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

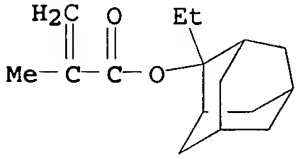
CM 1

CRN 274248-05-4
CMF C11 H12 O5



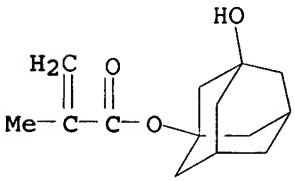
CM 2

CRN 209982-56-9
CMF C16 H24 O2



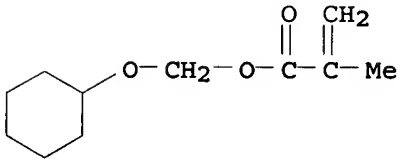
CM 3

CRN 115372-36-6
CMF C14 H20 O3



CM 4

CRN 76392-19-3
CMF C11 H18 O3

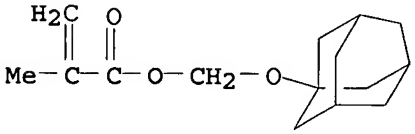


RN 863513-20-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, hexahydro-5-oxo-2,6-methanofuro[3,2-b]furan-3-yl ester, polymer with (tricyclo[3.3.1.13,7]dec-1-yloxy)methyl

2-methyl-2-propenoate (9CI) (CA INDEX NAME)

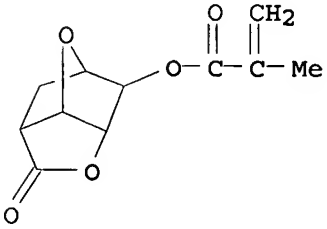
CM 1

CRN 863198-25-8
CMF C15 H22 O3



CM 2

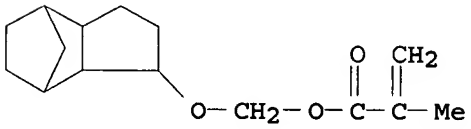
CRN 274248-05-4
CMF C11 H12 O5



RN 863513-22-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and [(octahydro-4,7-methano-1H-inden-1-yl)oxy]methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

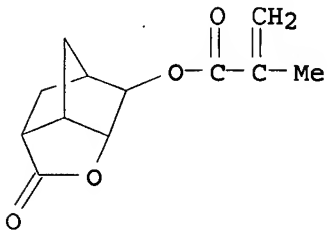
CM 1

CRN 863513-07-9
CMF C15 H22 O3



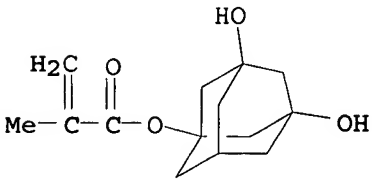
CM 2

CRN 254900-07-7
CMF C12 H14 O4



CM 3

CRN 115522-15-1
CMF C14 H20 O4



L14 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:823680 HCAPLUS
DOCUMENT NUMBER: 143:219461
TITLE: Unsaturated carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release
INVENTOR(S): Koyama, Hiroshi; Inoue, Keizo; Iwahama, Takahiro; Sumida, Mari
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2005075446 | A1 | 20050818 | WO 2005-JP794 | 20050117 |
| WO 2005075446 | C2 | 20051006 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| JP 2005220059 | A2 | 20050818 | JP 2004-28595 | 20040204 |

applicants

JP 2005248153 A2 20050915 JP 2004-303478 20041018
PRIORITY APPLN. INFO.: JP 2004-28594 A 20040204
JP 2004-28595 A 20040204
JP 2004-303478 A 20041018

AB Title polymers comprise repeating units CH2:CRaCOOCRbRcORd, wherein Ra = H, halogeno, C1-6 alkyl, or C1-6 haloalkyl; Rb = hydrocarbon group having a hydrogen atom in the 1-position; Rc = H or a hydrocarbon group; and Rd = organic group containing a cyclic skeleton. The polymers may further contain repeating units corresponding to ≥1 monomer selected from monomers having a lactone skeleton, monomers having a cyclic ketone skeleton, monomers having an acid anhydride group, and monomers having an imide group (excluding the unsatd. carboxylic acid hemiacetal ester repeating unit and/or monomer selected from monomers having a hydroxy group, etc.). Thus, 0.118 mol 2-vinyloxy-4-oxatricyclo[4.2.1.03,7]nonan-5-one and 0.59 mol methacrylic acid were reacted at 20° for 6 h in the presence of 0.12 mmol 4-methoxyphenol and 120 mg phosphoric acid to give 2-(1-methacryloylethoxy)-4-oxatricyclo[4.2.1.03,7]nonan-5-one, 5.41 g of which was polymerized with 4.93 g 1-methacryloyloxy-4-oxatricyclo[4.3.1.13,8]undecan-5-one and 4.66 g 1-hydroxy-3-methacryloyloxyadamantane in the presence of V 601 (dimethyl-2,2'-azobis(2-methylpropionate)) to give a copolymer with Mw 9800 and polydispersity 1.88, 100 parts of the resulting copolymer was mixed with 10 parts triphenylsulfonium hexafluoroantimonate and propylene glycol monomethyl ether, applied on a silicon wafer, prebaked at 100° for 150 s, irradiated through a photomask, post-baked at 100° for 60 s, developed using 0.3 M an aqueous tetramethylammonium hydroxide soln, showing good pattern.

IC ICM C07D307-00
ICS C07D307-94; C07C069-54; C08F220-26; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76

ST unsatd carboxylic acid hemiacetal ester resin compn **photoresist**; acid release; vinyloxyoxatricyclononanone methacrylic acid reactant methacryloylethoxyoxatricyclononanone prepn; methacryloylethoxyoxatricyclo nonanone methacryloyloxyoxatricycloundecanone hydroxymethacryloyloxyadamantane copolymer prepn

IT **Photoresists**
Semiconductor materials
(preparation of unsatd. carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release)

IT Carboxylic acids, reactions
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(unsatd., esters, hemiacetal, monomers; preparation of unsatd. carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release)

IT 474745-04-5P 862474-63-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate in monomer preparation; preparation of unsatd. carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release)

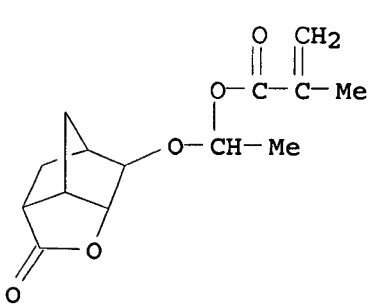
IT **862474-62-2P 862474-64-4P** 862474-65-5P
**862474-66-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; preparation of unsatd. carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release)

IT **862474-67-7P 862474-68-8P 862474-69-9P**
**862474-70-2P 862474-71-3P 862474-72-4P**
862474-73-5P **862474-74-6P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation of unsatd. carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release)

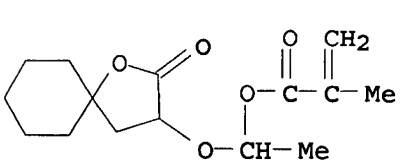
IT 79-41-4, Methacrylic acid, reactions 105-38-4, Vinyl propionate
6240-11-5, 1-Adamantylethanol 52253-82-4 274913-93-8 500541-94-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant in monomer preparation; preparation of unsatd. carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release)

IT **862474-62-2P 862474-64-4P 862474-66-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; preparation of unsatd. carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release)

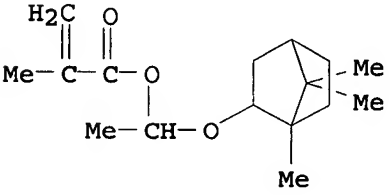
RN 862474-62-2 HCAPLUS
CN INDEX NAME NOT YET ASSIGNED



RN 862474-64-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-[(2-oxo-1-oxaspiro[4.5]dec-3-yl)oxy]ethyl ester (9CI) (CA INDEX NAME)



RN 862474-66-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-[(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)oxy]ethyl ester (9CI) (CA INDEX NAME)



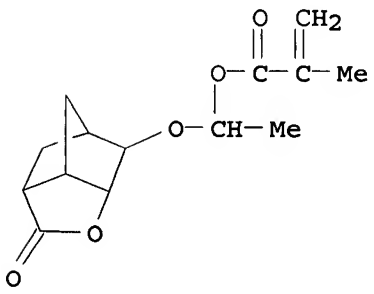
IT **862474-67-7P 862474-68-8P 862474-69-9P**
**862474-70-2P 862474-71-3P 862474-72-4P**
**862474-74-6P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation of unsatd. carboxylic acid hemiacetal esters and polymers for resin composition for **photoresists** with good acid release)

RN 862474-67-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-[(hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl)oxy]ethyl ester, polymer with 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and 5-oxo-4-oxatricyclo[4.3.1.13,8]undec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

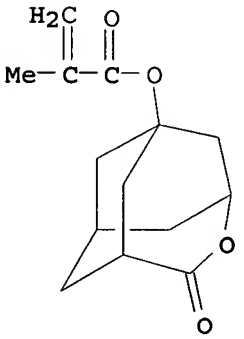
CM 1

CRN 862474-62-2
CMF C14 H18 O5



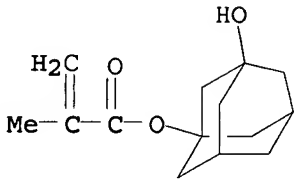
CM 2

CRN 348596-87-2
CMF C14 H18 O4



CM 3

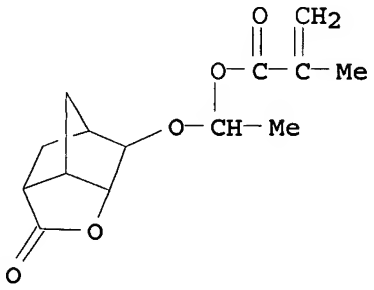
CRN 115372-36-6
CMF C14 H20 O3



RN 862474-68-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-[(hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl)oxy]ethyl ester, polymer with 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

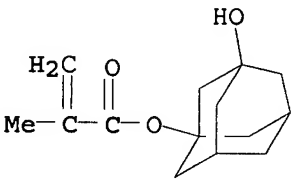
CM 1

CRN 862474-62-2
CMF C14 H18 O5



CM 2

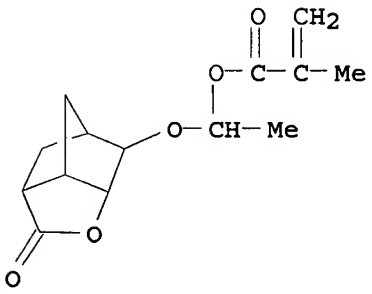
CRN 115372-36-6
CMF C14 H20 O3



RN 862474-69-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 1-[(hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl)oxy]ethyl 2-methyl-2-propenoate and 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

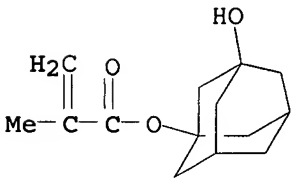
CM 1

CRN 862474-62-2
CMF C14 H18 O5



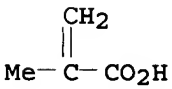
CM 2

CRN 115372-36-6
CMF C14 H20 O3



CM 3

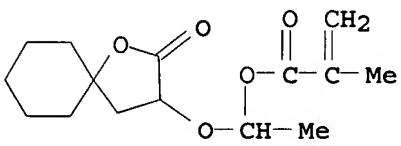
CRN 79-41-4
CMF C4 H6 O2



RN 862474-70-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 1-[(2-oxo-1-oxaspiro[4.5]dec-3-yl)oxy]ethyl 2-methyl-2-propenoate and 5-oxo-4-oxatricyclo[4.3.1.13,8]undec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

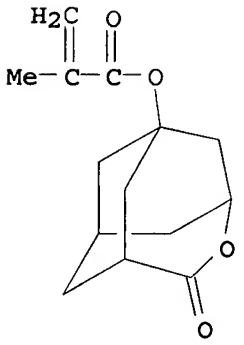
CM 1

CRN 862474-64-4
CMF C15 H22 O5



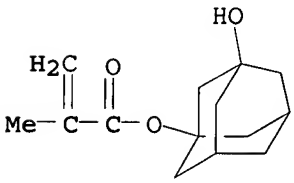
CM 2

CRN 348596-87-2
CMF C14 H18 O4



CM 3

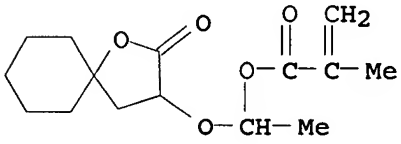
CRN 115372-36-6
CMF C14 H20 O3



RN 862474-71-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 1-[(2-oxo-1-oxaspiro[4.5]dec-3-yl)oxy]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

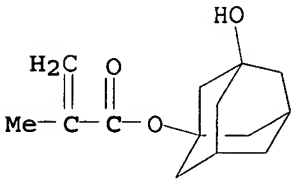
CRN 862474-64-4
CMF C15 H22 O5



CM 2

CRN 115372-36-6

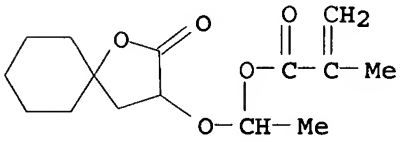
CMF C14 H20 O3



RN 862474-72-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and 1-[(2-oxo-1-oxaspiro[4.5]dec-3-yl)oxy]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

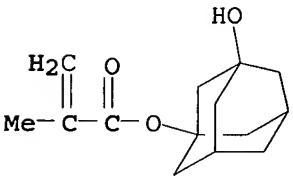
CM 1

CRN 862474-64-4
CMF C15 H22 O5



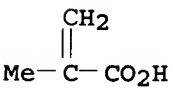
CM 2

CRN 115372-36-6
CMF C14 H20 O3



CM 3

CRN 79-41-4
CMF C4 H6 O2

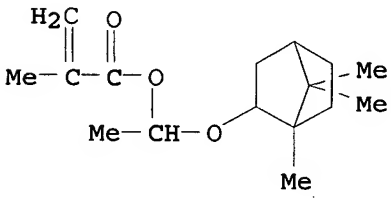


RN 862474-74-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester,

polymer with 5-oxo-4-oxatricyclo[4.3.1.13,8]undec-1-yl 2-methyl-2-propenoate and 1-[(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)oxy]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

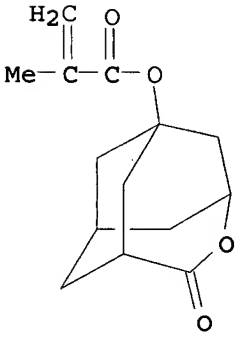
CM 1

CRN 862474-66-6
CMF C16 H26 O3



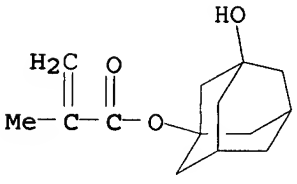
CM 2

CRN 348596-87-2
CMF C14 H18 O4



CM 3

CRN 115372-36-6
CMF C14 H20 O3



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:813681 HCAPLUS
DOCUMENT NUMBER: 143:238670
TITLE: Unsaturated carboxylic acid hemiacetal esters, their polymers, **photoresist** compositions containing them with high sensitivity, and manufacture of semiconductor devices using them
INVENTOR(S): Koyama, Hiroshi; Inoue, Keizo; Iwahama, Takahiro
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2005220059 | A2 | 20050818 | JP 2004-28595 | 20040204 |
| WO 2005075446 | A1 | 20050818 | WO 2005-JP794 | 20050117 |
| WO 2005075446 | C2 | 20051006 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| JP 2004-28594 | A | 20040204 |
| JP 2004-28595 | A | 20040204 |
| JP 2004-303478 | A | 20041018 |

AB The invention relates to hemiacetal unsatd. carboxylates CH2:CRaCO2CRbRcORd [Ra = H, halo, C1-6 (halo)alkyl; Rb = hydrocarbyl having H at position 1; Rc = H, hydrocarbyl; Rd = organic groups having cyclic structure].

IC ICM C07C069-54
ICS C08F020-26; G03F007-039

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76

ST hemiacetal carboxylate polymer pos **photoresist** sensitivity; semiconductor device photolithog **photoresist** hemiacetal acrylate polymer

IT Positive **photoresists**
(UV; excimer laser-sensitive **photoresists** of hemiacetal unsatd. carboxylate polymers for semiconductor devices)

IT Photolithography
Semiconductor device fabrication
(excimer laser-sensitive **photoresists** of hemiacetal unsatd. carboxylate polymers for semiconductor devices)

IT Acetals
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(hemiacetals, unsatd. carboxylates; excimer laser-sensitive **photoresists** of hemiacetal unsatd. carboxylate polymers for semiconductor devices)

IT 474745-04-5P 862474-65-5P **862474-66-6P**

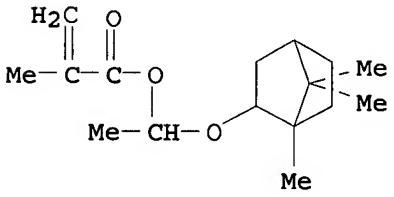
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(excimer laser-sensitive **photoresists** of hemiacetal unsatd. carboxylate polymers for semiconductor devices)

IT 862474-73-5P **862474-74-6P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(excimer laser-sensitive **photoresists** of hemiacetal unsatd. carboxylate polymers for semiconductor devices)

IT 105-38-4, Vinyl propionate 6240-11-5, Tricyclo[3.3.1.13,7]decane-1-ethanol 52253-82-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(excimer laser-sensitive **photoresists** of hemiacetal unsatd. carboxylate polymers for semiconductor devices)

IT **862474-66-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(excimer laser-sensitive **photoresists** of hemiacetal unsatd. carboxylate polymers for semiconductor devices)

RN 862474-66-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-[(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)oxy]ethyl ester (9CI) (CA INDEX NAME)

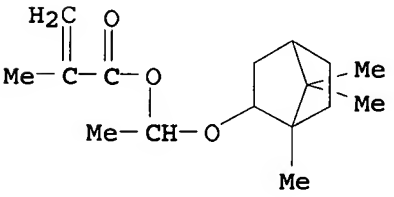



IT **862474-74-6P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(excimer laser-sensitive **photoresists** of hemiacetal unsatd. carboxylate polymers for semiconductor devices)

RN 862474-74-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 5-oxo-4-oxatricyclo[4.3.1.13,8]undec-1-yl 2-methyl-2-propenoate and 1-[(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)oxy]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

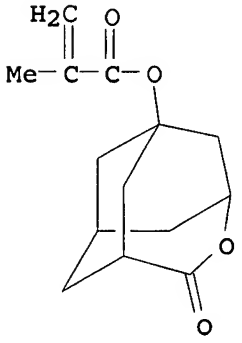
CM 1

CRN 862474-66-6
CMF C16 H26 O3



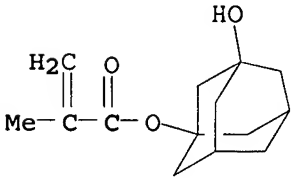
CM 2

CRN 348596-87-2
CMF C14 H18 O4



CM 3

CRN 115372-36-6
CMF C14 H20 O3



L14 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:611740 HCAPLUS
DOCUMENT NUMBER: 143:123058
TITLE: Novel polymer and chemically amplified **resist** composition containing the same
INVENTOR(S): Lim, Young-Taek; Park, Joo-Hyeon; Seo, Dong-Chul; Kim, Chang-Min; Cho, Seong-Duk; Joo, Hyun-Sang
PATENT ASSIGNEE(S): Korea Kumho Petrochemical Co., Ltd., S. Korea
SOURCE: U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2005153236 | A1 | 20050714 | US 2004-940469 | 20040914 |
| JP 2005194498 | A2 | 20050721 | JP 2004-281651 | 20040928 |
| PRIORITY APPLN. INFO.: | | | KR 2004-2526 A | 20040114 |

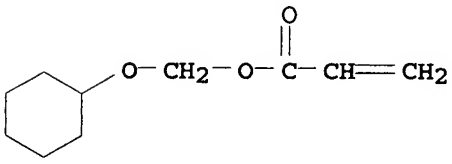
AB The present invention provides a chemical amplified **resist** composition including a novel polymer, a photoacid generator, and a solvent: The chemical amplified **resist** can form a **resist** pattern that is

excellent in adhesiveness with a low dependency to the substrate, transparency at the far UV wavelength range such as KrF excimer laser or ArF excimer laser, dry etch **resistance**, sensitivity, resolution, and developability. In addition, the polymer contains a maximum number of saturated aliphatic rings to enhance etching **resistance**, and addnl. includes an alkoxyalkyl acrylate monomer introduced as a solution to the problem with the conventional polyacrylate **resist** in regard to edge roughness of the pattern, to form a uniform edge of the pattern because the alkylalc. compound generated together with a formaldehyde and a carboxylate compound by a deprotection reaction of the alkoxyalkyl acrylate monomer with an acid acts as a solvent or an antifoaming agent in the pattern.

IC ICM G03C001-76
INCL 430270100
CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
ST polymer chem amplified **photoresist** compn aliph ring
IT **Photoresists**
(chemical amplified **resist** composition containing novel polymer)
IT 28432-83-9P 30050-02-3P, Methyl acrylate-norbornene copolymer
172321-15-2P, Methyl methacrylate-norbornene copolymer
**857899-60-6P 857899-62-8P 857899-64-0P**
857899-65-1P 857899-66-2P **857899-68-4P 857899-69-5P**
857899-70-8P 857899-71-9P 857899-72-0P **857899-73-1P**
**857899-74-2P 857899-75-3P 857899-76-4P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation of novel polymer for chemical amplified **resist** composition)
IT **857899-60-6P 857899-62-8P 857899-64-0P**
**857899-68-4P 857899-69-5P 857899-73-1P**
**857899-74-2P 857899-75-3P 857899-76-4P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation of novel polymer for chemical amplified **resist** composition)
RN 857899-60-6 HCAPLUS
CN 2-Propenoic acid, (cyclohexyloxy)methyl ester, polymer with bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

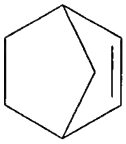
CM 1

CRN 857899-59-3
CMF C10 H16 O3



CM 2

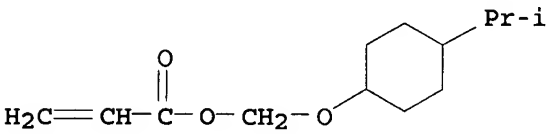
CRN 498-66-8
CMF C7 H10



RN 857899-62-8 HCAPLUS
CN 2-Propenoic acid, [[4-(1-methylethyl)cyclohexyl]oxy]methyl ester, polymer with bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

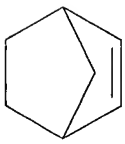
CM 1

CRN 857899-61-7
CMF C13 H22 O3




CM 2

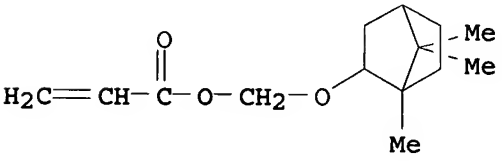
CRN 498-66-8
CMF C7 H10



RN 857899-64-0 HCAPLUS
CN 2-Propenoic acid, [(1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)oxy]methyl ester, polymer with bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

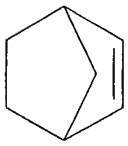
CM 1

CRN 857899-63-9
CMF C14 H22 O3




CM 2

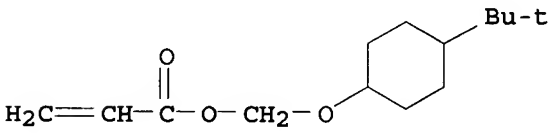
CRN 498-66-8
CMF C7 H10



RN 857899-68-4 HCAPLUS
CN 2-Propenoic acid, polymer with bicyclo[2.2.1]hept-2-ene and [[4-(1,1-dimethylethyl)cyclohexyl]oxy]methyl 2-propenoate (9CI) (CA INDEX NAME)

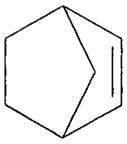
CM 1

CRN 857899-67-3
CMF C14 H24 O3



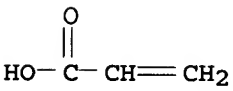

CM 2

CRN 498-66-8
CMF C7 H10



CM 3

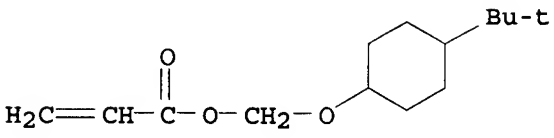
CRN 79-10-7
CMF C3 H4 O2




RN 857899-69-5 HCAPLUS
CN 2-Propenoic acid, [[4-(1,1-dimethylethyl)cyclohexyl]oxy]methyl ester, polymer with bicyclo[2.2.1]hept-2-ene and 2-hydroxycyclohexyl 2-propenoate (9CI) (CA INDEX NAME)

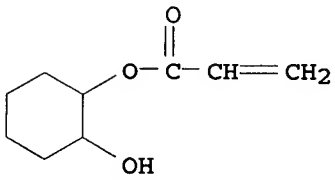
CM 1

CRN 857899-67-3
CMF C14 H24 O3



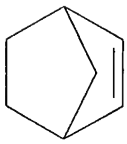
CM 2

CRN 23451-03-8
CMF C9 H14 O3



CM 3

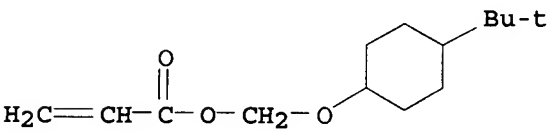
CRN 498-66-8
CMF C7 H10



RN 857899-73-1 HCAPLUS
CN 2-Propenoic acid, polymer with [[4-(1,1-dimethylethyl)cyclohexyl]oxy]methy
l 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

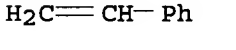
CM 1

CRN 857899-67-3
CMF C14 H24 O3



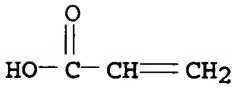
CM 2

CRN 100-42-5
CMF C8 H8



CM 3

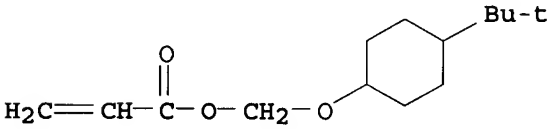
CRN 79-10-7
CMF C3 H4 O2



RN 857899-74-2 HCAPLUS
CN 2-Propenoic acid, [[4-(1,1-dimethylethyl)cyclohexyl]oxy]methyl ester, polymer with (ethenyloxy)cyclohexane and 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

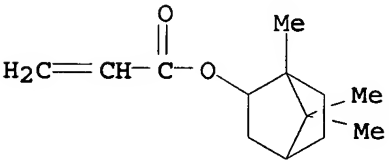
CM 1

CRN 857899-67-3
CMF C14 H24 O3



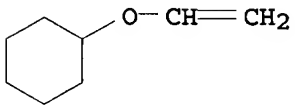
CM 2

CRN 128946-20-3
CMF C13 H20 O2



CM 3

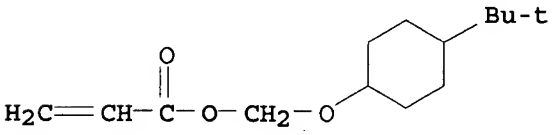
CRN 2182-55-0
CMF C8 H14 O



RN 857899-75-3 HCAPLUS
CN 2-Propenoic acid, [[4-(1,1-dimethylethyl)cyclohexyl]oxy]methyl ester, polymer with 4-[(ethenyloxy)methyl]cyclohexanemethanol and 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX NAME)

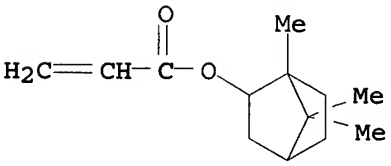
CM 1

CRN 857899-67-3
CMF C14 H24 O3



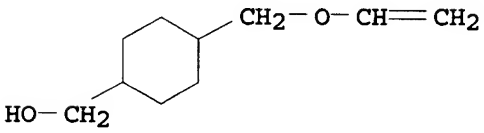
CM 2

CRN 128946-20-3
CMF C13 H20 O2



CM 3

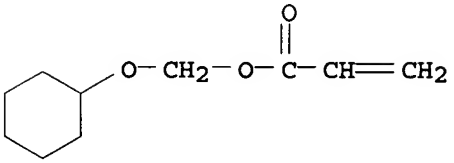
CRN 114651-37-5
CMF C10 H18 O2



RN 857899-76-4 HCAPLUS
CN 2-Propenoic acid, (cyclohexyloxy)methyl ester, polymer with α,α-bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

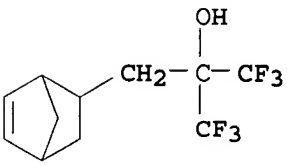
CM 1

CRN 857899-59-3
CMF C10 H16 O3



CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



L14 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:362073 HCAPLUS
DOCUMENT NUMBER: 142:420186
TITLE: α-Fluoroacrylates, and their compositions, polymers, and uses
INVENTOR(S): Kato, Takashi
PATENT ASSIGNEE(S): Chisso Corp., Japan; Chisso Petrochemical Corporation
SOURCE: Jpn. Kokai Tokkyo Koho, 75 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | | DATE |
|---|---|---|---|---|---|
| JP 2005112850 | A2 | 20050428 | JP 2004-265163 | | 20040913 |
| PRIORITY APPLN. INFO.: | | | JP 2003-325524 | A | 20030918 |

OTHER SOURCE(S): MARPAT 142:420186

AB The α-fluoroacrylates comprise PY(AZ)mRa or PY(AZ)mYP (P = CH2:CFCO2; Ra = H, halo, CN, CF3, CF2H, CFH2, OCF3, OCF2H, N:C:CO, N:C:S, C1-20 alkyl; A = 1,4-cyclohexylene, 1,4-cyclohexenylene, 1,4-phenylene, naphthalene-2,6-diyl, tetrahydronaphthalene-2,6-diyl, fluorene-2,7-diyl, bicyclo[2.2.2]octane-1,4-diyl, divalent groups selected from 10 kinds of groups; Z, Y = single bond, C1-20 alkylene; m = 1-10). The compns. comprise the α-fluoroacrylates and/or CH2:CFCO2(CH2)6OAARa+ (A = 1,4-phenylene; Ra+ = OMe, OC8H17, CN). Polymers of the compns. are useful for optically anisotropic moldings, retardation films, liquid-crystal alignment films, antireflective films, viewing angle-compensation films, polarizers in liquid-crystal displays. The polymers show good transparency, chemical stability, heat and water **resistance**, and mech. strength.

IC ICM C07C069-653
ICS C07C069-75; C07C069-76; C07C069-94; C07D213-30; C07D213-57; C07D213-65; C07D239-26; C07D239-34; C07D319-06; C07D321-10; C07D493-04; C08F020-22; G02F001-1335; G02F001-1336; G02F001-1337; C07M007-00

CC 74-13 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 73

ST fluoroacrylate polymer liq crystal display; optical anisotropic fluoroacrylate polymer LCD; LCD optical retardation film fluoroacrylate polymer; liq crystal alignment film fluoroacrylate polymer; antireflective film fluoroacrylate polymer LCD; viewing angle compensator fluoroacrylate polymer LCD; polarizer fluoroacrylate polymer liq crystal display

IT Fluoropolymers, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

IT Antireflective films
Liquid crystal displays
Liquid crystals, polymeric
Optical films
Polarizers
(fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

IT Anisotropic materials
(optically; fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

IT Optical instruments
(retarders; fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

IT 123864-17-5DP, polymers 850373-82-9DP, polymers 850373-88-5P **850373-92-1P** 850373-97-6P 850373-99-8P 850374-03-7P 850374-09-3P 850374-13-9P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

IT 61203-99-4D, polymers
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

IT 145767-92-6P 147622-86-4P 245515-06-4P 850373-83-0P 850373-84-1P 850373-86-3P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediates in fluoroacrylate preparation; fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

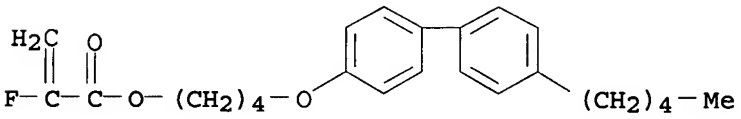
IT 850373-82-9P 850373-85-2P 850373-87-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomers; fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

IT 95-71-6, 2-Methylhydroquinone 60556-85-6 83883-25-4 147622-85-3 201601-60-7 737001-88-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactants in fluoroacrylate preparation; fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)

IT **850373-92-1P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(fluoroacrylates and their optically anisotropic polymers for liquid-crystal displays)
RN 850373-92-1 HCAPLUS
CN Benzoic acid, 4-[[6-[(2-fluoro-1-oxo-2-propenyl)oxy]hexyl]oxy]-, 2-methyl-1,4-phenylene ester, polymer with [[(trans,trans)-4'-(3,4-difluorophenyl)[1,1'-bicyclohexyl]-4-yl]oxy]methyl 2-fluoro-2-propenoate, 4-[(4'-pentyl[1,1'-biphenyl]-4-yl)oxy]butyl 2-fluoro-2-propenoate and 1,4-phenylene bis[4-[3-[(2-fluoro-1-oxo-2-propenyl)oxy]propoxy]benzoate] (9CI) (CA INDEX NAME)

CM 1

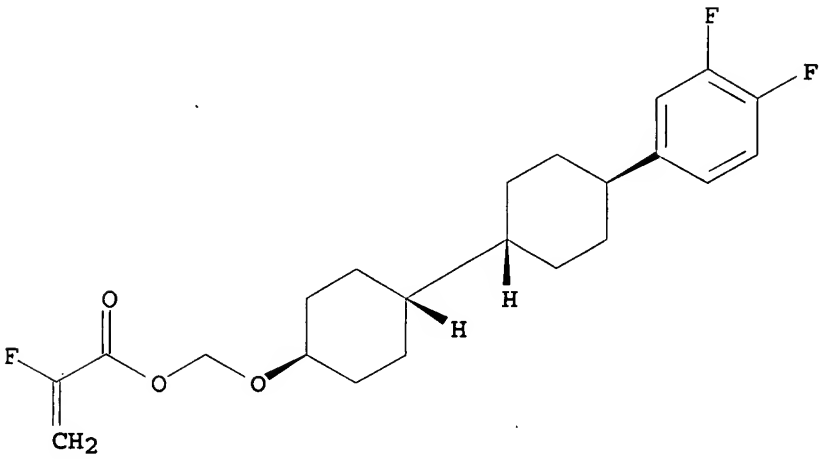
CRN 850373-91-0
CMF C24 H29 F O3



CM 2

CRN 850373-90-9
CMF C22 H27 F3 O3

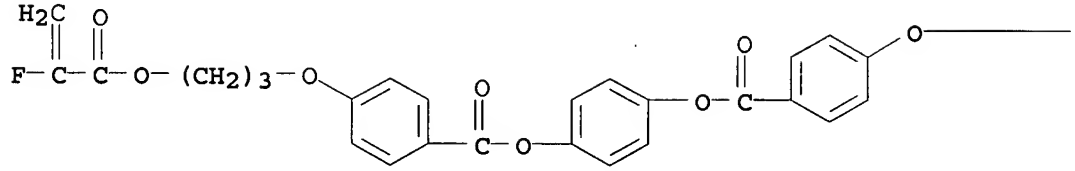
Relative stereochemistry.



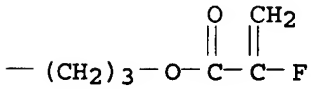
CM 3

CRN 850373-89-6
CMF C32 H28 F2 O10

PAGE 1-A



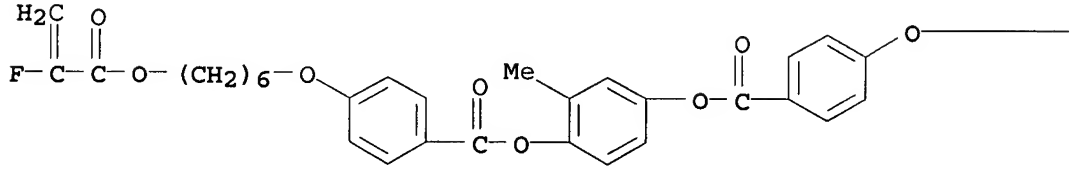
PAGE 1-B



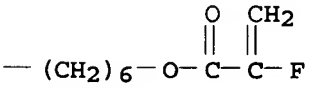
CM 4

CRN 850373-85-2
CMF C39 H42 F2 O10

PAGE 1-A



PAGE 1-B



L14 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:57546 HCAPLUS
DOCUMENT NUMBER: 142:144071
TITLE: Positive-working **photoresist** composition containing alkali-soluble fluorine-containing polymer
INVENTOR(S): Kanda, Hiromi; Mizutani, Kazuyoshi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2005017729 | A2 | 20050120 | JP 2003-182848 | 20030626 |
| PRIORITY APPLN. INFO.: | | | JP 2003-182848 | 20030626 |

AB Disclosed is the pos.-working **photoresist** composition comprising (A) an alkali-soluble resin having a group represented by -C(CR1R2R3)(CR4R5R6)(OX) or -COOX (R1-6 = H, F, fluoroalkyl; and X = acid-decomposable group containing ≥2 atoms selected from O, N, and S) and (B) a photoacid. The component (A) has ≥1 repeating unit formed from a vinyl ether compound The composition is especially suited for a F2 excimer laser (157 nm), and gives sufficient optical transparency.

IC ICM G03F007-039
ICS H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38

ST **photoresist** compn alkali soluble fluorine resin polymer; vinyl ether compd photoacid fluoropolymer

IT **Photoresists**
(pos.-working **photoresist** composition containing alkali-soluble fluorine-containing polymer)

IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist** composition containing alkali-soluble fluorine-containing polymer)

IT 66003-78-9, Triphenylsulfonium triflate 301664-71-1 347193-28-6 470482-89-4
RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid; pos.-working **photoresist** composition containing alkali-soluble fluorine-containing polymer)

IT 634200-93-4P **827043-43-6P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(pos.-working **photoresist** composition containing alkali-soluble fluorine-containing polymer)

IT 607710-73-6 762274-01-1 827028-90-0
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist** composition containing alkali-soluble fluorine-containing polymer)

IT 89825-36-5 568587-26-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of alkali-soluble fluorine-containing polymer for **photoresist** composition)

IT 756532-35-1P **827028-89-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of alkali-soluble fluorine-containing polymer for **photoresist** composition)

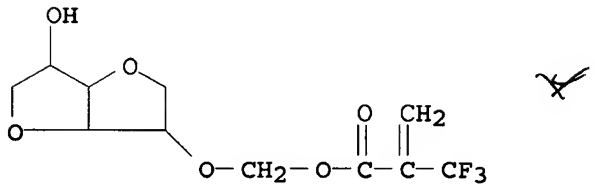
IT **827043-43-6P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(pos.-working **photoresist** composition containing alkali-soluble fluorine-containing polymer)

RN 827043-43-6 HCAPLUS

CN Hexitol, 1,4:3,6-dianhydro-2-O-[[[1-oxo-2-(trifluoromethyl)-2-propenyl]oxy]methyl]-, polymer with 5(or 6)-(ethenyloxy)-α,α-bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol (9CI) (CA INDEX NAME)

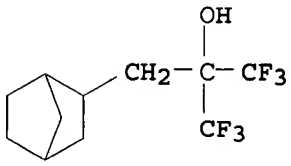
CM 1

CRN 827028-89-7
CMF C11 H13 F3 O6



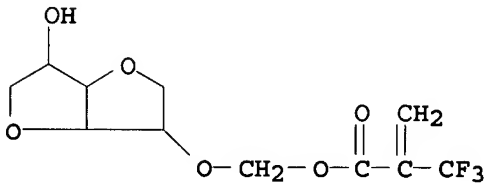
CM 2

CRN 634200-89-8
CMF C13 H16 F6 O2
CCI IDS





IT **827028-89-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of alkali-soluble fluorine-containing polymer for **photoresist** composition)
RN 827028-89-7 HCAPLUS
CN Hexitol, 1,4:3,6-dianhydro-2-O-[[[1-oxo-2-(trifluoromethyl)-2-propenyl]oxy]methyl]- (9CI) (CA INDEX NAME)



L14 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:57488 HCAPLUS
DOCUMENT NUMBER: 142:144314
TITLE: Curable polymer compositions, protective films for liquid-crystal displays, and their manufacture
INVENTOR(S): Baba, Atsushi; Nishikawa, Michinori

PATENT ASSIGNEE(S): JSR Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2005017321 | A2 | 20050120 | JP 2003-177752 | 20030623 |
| PRIORITY APPLN. INFO.: | | | JP 2003-177752 | 20030623 |

AB The compns. comprise (A) polymers having ≥2 epoxy groups, (B) cationically polymerizable compds. other than A, and (C) ≥1 compds. selected from thiazoles, thiazolines, sulfenamides, dithiocarbamates, and thiurams. The protective films are manufactured by forming films of the compns. on substrates and then irradiating with radiation and/or heating. The protective films are useful for optical devices such as liquid-crystal displays and charge-coupled devices. The compns. show good transparency, heat and load **resistance**, surface hardness, adhesion strength, and good leveling property for unevenness of color filters.

IC ICM G03F007-038
ICS C08G059-20; C08K005-36; C08L063-00; G02B005-20; G03F007-004

CC 74-13 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)

ST epoxy resin protective film transparency LCD; thiazole adhesion modifier epoxy protective film; thiazoline adhesion modifier epoxy protective film; sulfenamide adhesion modifier epoxy protective film; dithiocarbamate adhesion modifier epoxy protective film; thiuram adhesion modifier epoxy protective film

IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

IT Transparent materials
(coatings; curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

IT Liquid crystal displays
(curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

IT Coating materials
(heat-**resistant**; curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

IT Amides, uses
Sulfenyl compounds
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(sulfenamides; curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

IT Coating materials
(transparent; curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 138399-10-7
RL: CAT (Catalyst use); USES (Uses)
(acid generators; curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

IT 95-32-9, 2-(4-Morpholinyldithio)benzothiazole 95-33-0, Sanceler CM 97-74-5, Sanceler TS 149-30-4, Sanceler M
RL: MOA (Modifier or additive use); TEM (Technical or engineered material

use); USES (Uses)
(adhesion modifiers; curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

IT 600737-88-0P, Dicyclopentanyl methacrylate-Epikote 157S65-glycidyl methacrylate-methacrylic acid-styrene copolymer 600737-89-1P, Dicyclopentanyl methacrylate-glycidyl methacrylate-methacrylic acid-styrene-trimethylolpropane tris[(3-ethyl-3-oxetanyl)methyl] ether copolymer 600737-90-4P, N-Cyclohexylmaleimide-Epikote 157S65-glycidyl methacrylate-methacrylic acid-styrene copolymer 756479-35-3P, N-Cyclohexylmaleimide-glycidyl methacrylate-methacrylic acid-styrene-trimethylolpropane tris[(3-ethyl-3-oxetanyl)methyl] ether copolymer 824955-59-1P, 2,4-Diphenyl-4-methyl-1-pentene-Epikote 157S65-glycidyl methacrylate-pyromellitic anhydride-styrene copolymer 824955-60-4P, 2,4-Diphenyl-4-methyl-1-pentene-Epikote 828-glycidyl methacrylate-pyromellitic anhydride-styrene copolymer 824955-61-5P, Dicyclopentanyl methacrylate-2,4-diphenyl-4-methyl-1-pentene-Epikote 157S65-glycidyl methacrylate-pyromellitic anhydride copolymer 824955-63-7P **824955-64-8P**, 1-(Cyclohexyloxy)ethyl methacrylate-dicyclopentanyl methacrylate-Epikote 157S65-glycidyl methacrylate-styrene copolymer **824955-65-9P**, 1-Cyclohexyloxyethyl methacrylate-dicyclopentanyl methacrylate-glycidyl methacrylate-styrene-trimethylolpropane tris[(3-ethyl-3-oxetanyl)methyl] ether copolymer 824955-66-0P, N-Cyclohexylmaleimide-Epikote 157S65-glycidyl methacrylate-styrene-tetrahydro-2H-pyran-2-yl methacrylate copolymer 824955-67-1P, N-Cyclohexylmaleimide-glycidyl methacrylate-styrene-tetrahydropyranyl methacrylate-trimethylolpropane tris[(3-ethyl-3-oxetanyl)methyl] ether copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

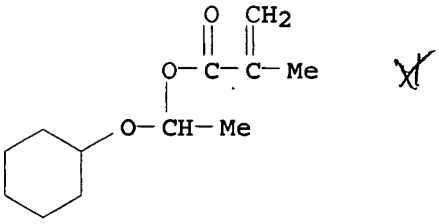
IT **824955-64-8P**, 1-(Cyclohexyloxy)ethyl methacrylate-dicyclopentanyl methacrylate-Epikote 157S65-glycidyl methacrylate-styrene copolymer **824955-65-9P**, 1-Cyclohexyloxyethyl methacrylate-dicyclopentanyl methacrylate-glycidyl methacrylate-styrene-trimethylolpropane tris[(3-ethyl-3-oxetanyl)methyl] ether copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(curable epoxy resin compns. with good load **resistance** for manufacture of protective films for LCD)

RN 824955-64-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with Epikote 157S65, ethenylbenzene, octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 143556-62-1
CMF C12 H20 O3



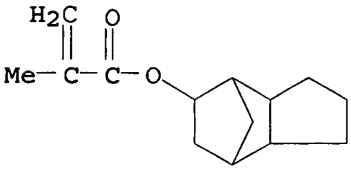
CM 2

CRN 137598-82-4
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

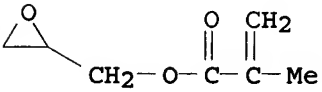
CM 3

CRN 34759-34-7
CMF C14 H20 O2



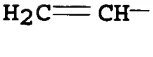
CM 4

CRN 106-91-2
CMF C7 H10 O3



CM 5

CRN 100-42-5
CMF C8 H8

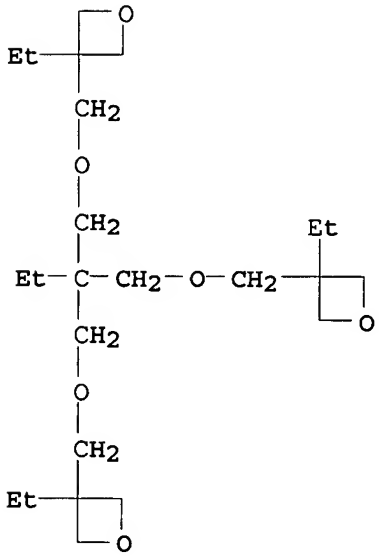


RN 824955-65-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with ethenylbenzene, 3,3'-[[2-ethyl-2-[[(3-ethyl-3-oxetanyl)methoxy]methyl]-1,3-propanediyl]bis(oxymethylene)]bis[3-ethyloxetane], octahydro-4,7-methano-

1H-inden-5-yl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

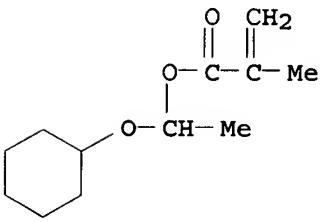
CM 1

CRN 180423-87-4
CMF C24 H44 O6



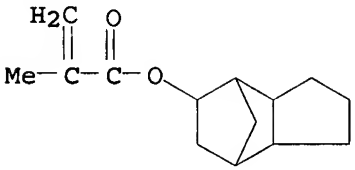
CM 2

CRN 143556-62-1
CMF C12 H20 O3



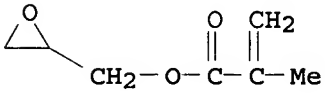
CM 3

CRN 34759-34-7
CMF C14 H20 O2



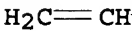
CM 4

CRN 106-91-2
CMF C7 H10 O3



CM 5

CRN 100-42-5
CMF C8 H8



L14 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:33665 HCAPLUS
DOCUMENT NUMBER: 142:103483
TITLE: Storage-stable curable polymer compositions for protective and planarization films of color filters
INVENTOR(S): Baba, Atsushi; Nishikawa, Michinori
PATENT ASSIGNEE(S): JSR Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2005008847 | A2 | 20050113 | JP 2003-305945 | 20030829 |
| PRIORITY APPLN. INFO.: | | | JP 2003-150242 A | 20030528 |

AB The compns., useful for liquid crystal displays, charge-coupled devices, etc., comprise (A) cyclocyclic polymers containing epoxy groups chosen from dicyclopentadiene monoepoxide, epoxycyclohexane, and epoxycyclopentane, and (B) other cationically polymerizable compds. The protective films show good storage stability and heat **resistance**, and improved adhesion.

IC ICM C08F020-32
ICS C08F012-22; C08F016-26; C08F220-02; C08F222-02; C08G059-20
CC 74-13 (Radiation Chemistry, **Photochemistry**, and Photographic and

Other Reprographic Processes)
Section cross-reference(s): 38, 73

ST protective planarization film color filter epoxy resin; epoxycyclohexylmethyl methacrylate styrene bisphenol epoxy trimellitic anhydride; LCD charge coupled device protective film

IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, crosslinked; storage-stable curable polymer compns. for protective and planarization films of color filters)

IT Charge coupled devices
Liquid crystal displays
Optical filters
(storage-stable curable polymer compns. for protective and planarization films of color filters)

IT 154065-85-7P, (3,4-Epoxycyclohexyl)methyl methacrylate-styrene copolymer 819070-62-7P 819070-64-9P 819070-65-0P **819070-66-1P** 819070-67-2P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(storage-stable curable polymer compns. for protective and planarization films of color filters)

IT 819070-68-3P 819070-69-4P 819070-70-7P 819070-71-8P 819070-72-9P 819070-73-0P **819070-74-1P** 819070-75-2P **819070-76-3P** 819070-77-4P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(storage-stable curable polymer compns. for protective and planarization films of color filters)

IT 552-30-7, Trimellitic anhydride
RL: RCT (Reactant); RACT (Reactant or reagent)
(storage-stable curable polymer compns. for protective and planarization films of color filters)

IT 25068-38-6, Epikote 828 25085-75-0D, Bisphenol A-formaldehyde copolymer, glycidyl ethers 137598-82-4, Epikote 157S65 180423-87-4
RL: TEM (Technical or engineered material use); USES (Uses)
(storage-stable curable polymer compns. for protective and planarization films of color filters)

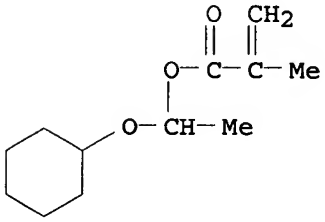
IT **819070-66-1P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(storage-stable curable polymer compns. for protective and planarization films of color filters)

RN 819070-66-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with ethenylbenzene, octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and 7-oxabicyclo[4.1.0]hept-3-ylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

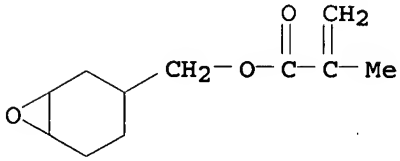
CM 1

CRN 143556-62-1
CMF C12 H20 O3



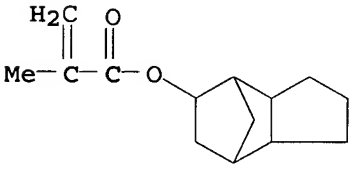
CM 2

CRN 82428-30-6
CMF C11 H16 O3



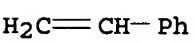
CM 3

CRN 34759-34-7
CMF C14 H20 O2



CM 4

CRN 100-42-5
CMF C8 H8

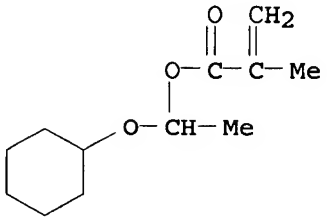


IT **819070-74-1P 819070-76-3P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(storage-stable curable polymer compns. for protective and planarization films of color filters)
RN 819070-74-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with Epikote 157S65, ethenylbenzene, octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and 7-oxabicyclo[4.1.0]hept-3-ylmethyl

2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 143556-62-1
CMF C12 H20 O3



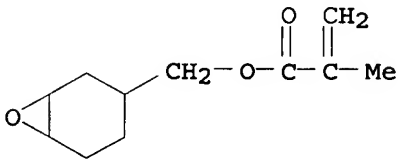
CM 2

CRN 137598-82-4
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

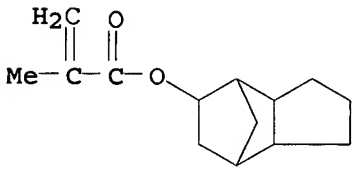
CM 3

CRN 82428-30-6
CMF C11 H16 O3



CM 4

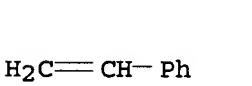
CRN 34759-34-7
CMF C14 H20 O2



CM 5

CRN 100-42-5

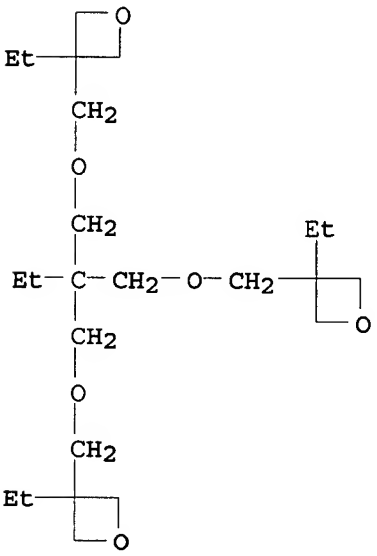
CMF C8 H8



RN 819070-76-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester, polymer with ethenylbenzene, 3,3'-[[2-ethyl-2-[[(3-ethyl-3-oxetanyl)methoxy]methyl]-1,3-propanediyl]bis(oxymethylene)]bis[3-ethyloxetane], octahydro-4,7-methano-1H-inden-5-yl 2-methyl-2-propenoate and 7-oxabicyclo[4.1.0]hept-3-ylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

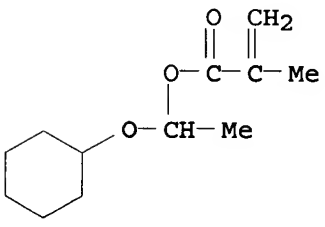
CM 1

CRN 180423-87-4
CMF C24 H44 O6



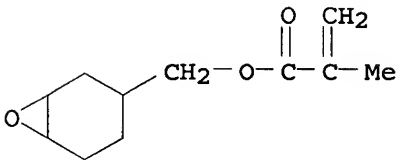
CM 2

CRN 143556-62-1
CMF C12 H20 O3



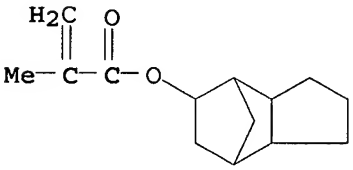
CM 3

CRN 82428-30-6
CMF C11 H16 O3



CM 4

CRN 34759-34-7
CMF C14 H20 O2



CM 5

CRN 100-42-5
CMF C8 H8



L14 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:492719 HCAPLUS
DOCUMENT NUMBER: 141:62033
TITLE: Cellulose acylate films for optical uses, their manufacture, and liquid crystal displays and photographic films employing the same
INVENTOR(S): Kato, Eiichi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 55 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2004168905 | A2 | 20040617 | JP 2002-336954 | 20021120 |

PRIORITY APPLN. INFO.: JP 2002-336954 20021120

AB Cellulose acylate dopes containing photopolymn. macromol. initiators TL1D1(OE1OCOE2CO)nR1 or TL2D2(OCE1CO2E2O)nR2 [T = dithiocarbamato,

xanthato; L1, L2 = bivalent bridging group; E1, E2 = bivalent aliphatic and/or aromatic group; D1 = CH2, CO; D2 = O, NH; R1 = OH, OR5, NR6R7 (R5 = C1-12 hydrocarbyl; R6, R7 = H, C1-12 hydrocarbyl); R2 = H, C1-12 hydrocarbyl, COR8, CONHR9 (R8, R9 = C1-12 hydrocarbyl)], and radical monomers are cast and exposed to light to form the claimed films. The dopes may contain light-stable monomers and multifunctional monomers. LCD employing the films are also claimed. Photog. films having supports comprising 30-250-μm-thick films obtained as above, are further claimed. The films show improved flexural strength, storage stability, transparency, and tear strength.

IC ICM C08F002-44
ICS C08F002-50; C08F251-02; C08J005-18; G02B005-30; G03C001-795; C08L001-12

CC 74-2 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 73

ST cellulose acylate film diblock polymer strengthened; photog polarizer optical film cellulose acetate; dithiocarbamate xanthate terminated macroinitiator cellulose acylate dope; tear flexural **resistant** cellulose cast optical film

IT Polyesters, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, block, diblock; tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

IT Macromonomers
RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(dithiocarbamate- or xanthate-terminated; tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

IT Polarizers
(elliptic; tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

IT Polymerization catalysts
(macromonomers; tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

IT Polymerization catalysts
(photopolymn., macromol.; tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

IT Optical instruments
(retarders; tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

IT Casting of polymeric materials
Liquid crystal displays
Optical films
Photographic films
(tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

IT 708212-00-4P 708212-01-5P 708212-02-6P 708212-03-7P 708212-04-8P
708212-05-9P 708212-06-0P 708212-07-1P 708212-08-2P 708212-09-3P
708212-10-6P 708212-11-7P 708212-13-9P 708212-44-6P 708213-71-2P
708215-35-4P 708271-47-0P 708271-53-8P 708271-73-2P 708271-75-4P
708271-91-4P 708272-22-4P 708272-25-7P 708272-57-5P 708272-72-4P
708272-75-7P 708272-80-4P 708272-84-8P 708272-86-0P 708272-89-3P
708273-03-4P 708273-08-9P 708273-14-7P 708273-48-7DP, Bu ether
708274-50-4P 708274-68-4P 708274-94-6DP, Me ether 708274-96-8P
RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(macromol. initiators; tear-**resistant** cellulose acylate films

containing radically-polymerized block copolymers for optical uses)

IT 79-41-4DP, Methacrylic acid, diblock polymers 80-62-6DP, Methyl methacrylate, diblock polymers 105-08-8DP, 1,4-Cyclohexanedimethanol, diblock polymers 108-30-5DP, Succinic anhydride, diblock polymers 3066-71-5DP, diblock polymers 3971-31-1DP, 1,3-Cyclohexanedicarboxylic acid, diblock polymers 676353-20-1DP, diblock polymers 708212-12-8P 708212-14-0P 708212-15-1P 708212-16-2P 708212-17-3P 708212-18-4P 708212-19-5P 708212-20-8P 708212-21-9P 708212-22-0P 708212-23-1P 708212-24-2P 708212-25-3P 708212-26-4P 708212-28-6P 708212-29-7P 708212-30-0P 708212-31-1P 708212-32-2P **708212-33-3P** 708212-34-4P 708212-35-5P 708212-38-8P 708212-40-2P 708212-43-5P 708212-45-7P 708274-97-9P, 1,6-Hexanediol-glutaric anhydride-methyl methacrylate diblock copolymer 708275-31-4P 708275-33-6P 708275-34-7P 708275-35-8P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

IT 9012-09-3, Cellulose triacetate
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

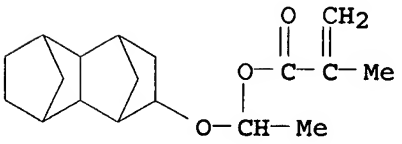
IT **708212-33-3P**
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(tear-**resistant** cellulose acylate films containing radically-polymerized block copolymers for optical uses)

RN 708212-33-3 HCAPLUS

CN Heptanedioic acid, polymer with 1-[(decahydro-1,4:5,8-dimethanonaphthalen-2-yl)oxy]ethyl 2-methyl-2-propenoate, decahydro-1,5-naphthalenediol and hexylbutanedioic acid, diblock (9CI) (CA INDEX NAME)

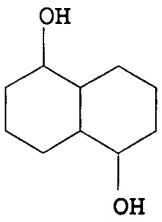
CM 1

CRN 658060-19-6
CMF C18 H26 O3



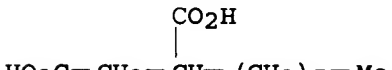

CM 2

CRN 66818-21-1
CMF C10 H18 O2



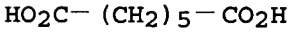
CM 3

CRN 5702-91-0
CMF C10 H18 O4



CM 4

CRN 111-16-0
CMF C7 H12 O4



L14 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:432933 HCAPLUS
DOCUMENT NUMBER: 140:431323
TITLE: Cellulose acylate films, their manufacture, and optical sheets, polarizers, liquid crystal displays, and silver halide photographic materials using them
INVENTOR(S): Kato, Eiichi; Moto, Takahiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 66 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2004148811 | A2 | 20040527 | JP 2003-349004 | 20031008 |
| PRIORITY APPLN. INFO.: | | | JP 2002-294914 A | 20021008 |

AB The films, showing good tear strength, moisture impermeability, and storage stability and low dependence of retardation on temperature and moisture, are manufactured by casting compns. containing cellulose acylates, radically polymerizable monomers bearing cycloaliph. hydrocarbon groups, and photopolymn. initiators and irradiating them with lights.
IC ICM B29C041-24
ICS G02B005-30; G02F001-1335; G03C001-795; B29K001-00; B29L007-00

CC 74-2 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST cellulose acylate film retardation temp independence; optical cast film polarizer moisture impermeability; photog film light stabilizer monomer photopolymn

IT Optical films
Photographic films
Polarizers
Water-**resistant** materials
(manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

IT Polymerization catalysts
(photopolymn.; manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

IT Liquid crystal displays
(polarizers for; manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

IT Optical instruments
(retarders; manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

IT 947-19-3 3584-23-4 10409-07-1 15522-59-5 71449-78-0 71868-10-5 184591-55-7 693274-53-2
RL: CAT (Catalyst use); USES (Uses)
(initiator; manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

IT 99732-63-5P 658059-80-4P 658059-82-6P 658060-11-8P 658060-13-0P **658060-20-9P** 658063-12-8P 658063-14-0P 676265-38-6P 676265-41-1P 693274-42-9P 693274-43-0P 693274-44-1P 693274-45-2P 693274-46-3P 693274-47-4P 693274-49-6P 693274-50-9P 693274-51-0P 693274-52-1P 693287-19-3P 693287-22-8P 693287-25-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

IT 9012-09-3, Cellulose triacetate
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

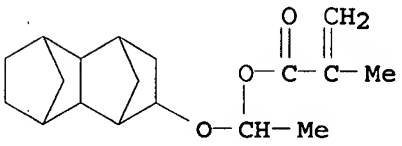
IT 9003-20-7, Poly(vinyl acetate)
RL: TEM (Technical or engineered material use); USES (Uses)
(polarizer film; manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

IT **658060-20-9P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(manufacture of cellulose acylate films with good storage stability and low dependence of retardation on temperature and moisture for optical films, polarizers, and photog. films)

RN 658060-20-9 HCAPLUS
CN Butanedioic acid, 5-[4-(5-chloro-2H-benzotriazol-2-yl)-5-hydroxy-2-methylphenoxy]-2-hydroxypentyl 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, polymer with 1-[(decahydro-1,4:5,8-dimethanonaphthalen-2-yl)oxy]ethyl 2-methyl-2-propenoate and 3-[(1-ethyl-2,2,6,6-tetramethyl-4-piperidinyl)oxy]-2-hydroxypropyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

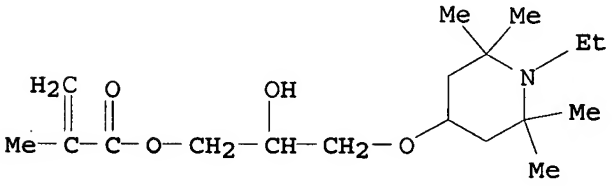
CM 1

CRN 658060-19-6
CMF C18 H26 O3



CM 2

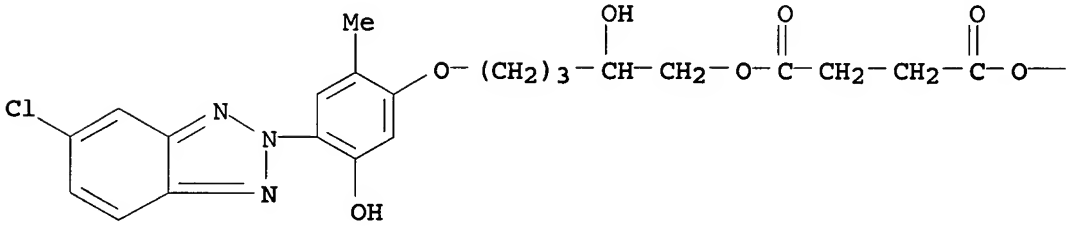
CRN 658059-88-2
CMF C18 H33 N O4



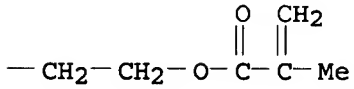
CM 3

CRN 658059-87-1
CMF C28 H32 Cl N3 O9

PAGE 1-A



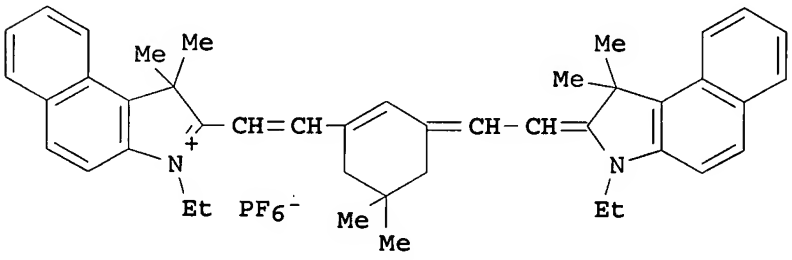
PAGE 1-B



L14 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:217309 HCAPLUS
DOCUMENT NUMBER: 140:254613
TITLE: Cellulose acylate films, their manufacture, and their uses in optical films, liquid crystal displays, and photographic materials
INVENTOR(S): Kato, Eiichi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2004083799 | A2 | 20040318 | JP 2002-249041 | 20020828 |
| PRIORITY APPLN. INFO.: | | | JP 2002-249041 | 20020828 |

OTHER SOURCE(S): MARPAT 140:254613
GI



I

AB The films are manufactured by casting cellulose acylate compns. containing radically polymerizable monomers, near-IR sensitizers, and photopolymn. initiators and irradiating with near-IR. Thus, a film was manufactured from a dope containing cellulose triacetate, a plasticizer, SiO2 microparticles, a UV absorber, sensitizer I, tetrabutylammonium 2,4,6-trifluorotetraphenylborate, and N-phenylglycine. The film showed good releasability, low haze, high tear strength, no contamination, and good **resistance** to weathering and storage at high temperature and humidity.

IC ICM C08J005-18
ICS B29C041-24; C08F002-44; C08F002-46; C08F251-02; G02B005-30; G02F001-1335; G02F001-1336; G03C001-795; B29K001-00; B29L007-00; C08L001-10

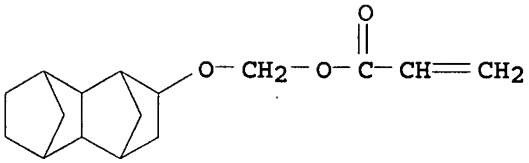
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73, **74**

ST cellulose acylate film near IR sensitizer; optical film cellulose triacetate photopolymn initiator; liq crystal display cellulose acylate

film; photog cellulose acylate film near IR sensitizer
IT Casting of polymeric materials
Liquid crystal displays
Optical films
Photographic films
(manufacture of cellulose acylate films from dopes containing monomers, near-IR sensitizers, and photopolymn. initiators)
IT IR radiation
(near-IR; manufacture of cellulose acylate films from dopes containing monomers, near-IR sensitizers, and photopolymn. initiators)
IT Polymerization catalysts
(photopolymn.; manufacture of cellulose acylate films from dopes containing monomers, near-IR sensitizers, and photopolymn. initiators)
IT 3584-23-4 15522-59-5 121527-59-1 131725-15-0 142282-45-9
671233-79-7 671234-13-2 671234-14-3 671234-16-5 671234-18-7
671234-20-1 671234-22-3 671234-23-4
RL: CAT (Catalyst use); USES (Uses)
(initiator; manufacture of cellulose acylate films from dopes containing monomers, near-IR sensitizers, and photopolymn. initiators)
IT 9011-14-7P, Poly(methyl methacrylate) 99732-63-5P 658059-80-4P
658059-82-6P 658059-84-8P 658059-89-3P 658059-91-7P 658059-97-3P
658060-00-5P 658060-03-8P 658060-06-1P 658060-09-4P 666837-41-8P
**671233-68-4P** 671233-70-8P 671233-72-0P 671233-73-1P
671233-75-3P 671234-43-8P
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)
(manufacture of cellulose acylate films from dopes containing monomers, near-IR sensitizers, and photopolymn. initiators)
IT 9012-09-3, Cellulose triacetate
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of cellulose acylate films from dopes containing monomers, near-IR sensitizers, and photopolymn. initiators)
IT 93072-15-2 666837-32-7 666837-34-9 666837-35-0 666837-37-2
671233-77-5 671233-78-6
RL: CAT (Catalyst use); USES (Uses)
(sensitizer; manufacture of cellulose acylate films from dopes containing monomers, near-IR sensitizers, and photopolymn. initiators)
IT **671233-68-4P**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)
(manufacture of cellulose acylate films from dopes containing monomers, near-IR sensitizers, and photopolymn. initiators)
RN 671233-68-4 HCAPLUS
CN 2-Propenoic acid, 2,2-bis[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with [(decahydro-1,4:5,8-dimethanonaphthalen-2-yl)oxy]methyl 2-propenoate (9CI) (CA INDEX NAME)

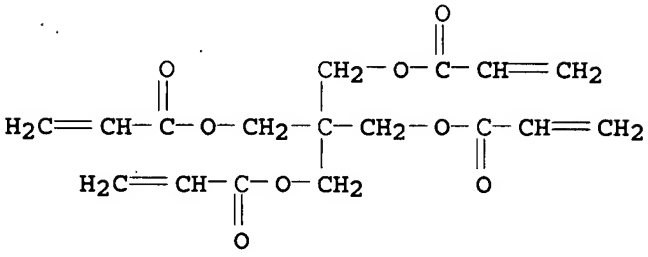
CM 1

CRN 671233-67-3
CMF C16 H22 O3



CM 2

CRN 4986-89-4
CMF C17 H20 O8



L14 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:180035 HCAPLUS
DOCUMENT NUMBER: 140:243664
TITLE: Cellulose acylate films with excellent transparency, tear strength, and weather **resistance**, their manufacture, and optical films, liquid crystal displays, and silver halide photographic materials using them
INVENTOR(S): Kato, Eiichi
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2004067816 | A2 | 20040304 | JP 2002-227579 | 20020805 |
| PRIORITY APPLN. INFO.: | | | JP 2002-227579 | 20020805 |

AB The films are manufactured by casting cellulose acylate compns. containing polymerizable monomers, photothermal converting agents, and thermal polymerization initiators and irradiating them with IR.

IC ICM C08J005-18
ICS B29C041-28; B29C041-50; C08F002-44; C08F251-02; G02B005-30; G02F001-1335; G03C001-795; B29K001-00; B29L007-00; C08L001-10

CC 74-13 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 73

ST cellulose acylate cast film strength photog; optical film cellulose photothermal converter LCD; polarizer cellulose methyl methacrylate IR

irradn
IT Liquid crystal displays
Optical films
Photographic films
Plastic films
Polarizers
Transparent films
(manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)
IT Epoxy resins, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)
IT Polymerization catalysts
(photopolymn.; manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)
IT Optical instruments
(retarders; manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)
IT 2495-35-4DP, polymers 9011-14-7P, Methyl methacrylate polymer 16868-15-8DP, polymers 40756-50-1P 59620-20-1DP, polymers 72355-89-6P 99732-63-5P 119347-00-1DP, polymers 128611-70-1DP, polymers 151543-64-5P, Poly(1,4-cyclohexanedimethanol divinyl ether) 658059-80-4P 658059-82-6P 658059-84-8P 658059-86-0P 658059-89-3P 658059-91-7P 658059-97-3P 658060-00-5P 658060-03-8P 658060-06-1P 658060-09-4P 658060-36-7P 658060-38-9DP, polymers 666837-41-8P 666837-45-2P 666837-46-3P 666837-47-4P 666837-48-5P 666837-49-6P **666837-50-9P** 666837-51-0P 666837-52-1P 666837-53-2P 666837-56-5DP, reaction products with monoepoxide 666837-57-6DP, reaction products with epoxy resin 666841-65-2P 666841-66-3P
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)
IT 9004-34-6D, Cellulose, acylate 9012-09-3, Cellulose triacetate
RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)
IT 3584-23-4 10409-07-1 15522-59-5 52754-92-4, Diphenyliodonium hexafluoroantimonate 58162-30-4 62051-09-6 71449-78-0 121458-82-0 157692-55-2 191043-97-7 666837-39-4 666837-42-9
RL: CAT (Catalyst use); USES (Uses)
(photopolymn. initiator; manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)
IT 93072-15-2 102258-16-2 666837-30-5 666837-32-7 666837-34-9 666837-35-0 666837-37-2 666837-44-1 666837-55-4
RL: CAT (Catalyst use); USES (Uses)
(photothermal converter; manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)
IT 9002-89-5, Poly(vinyl alcohol)
RL: DEV (Device component use); USES (Uses)
(polarizer; manufacture of cellulose acylate cast films with good

transparency, tear strength, and weather **resistance** for optical use)

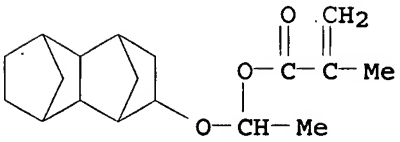
IT **666837-50-9P**
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(manufacture of cellulose acylate cast films with good transparency, tear strength, and weather **resistance** for optical use)

RN 666837-50-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-[(decahydro-1,4:5,8-dimethanonaphthalen-2-yl)oxy]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 658060-19-6
CMF C18 H26 O3



L14 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:868159 HCAPLUS
DOCUMENT NUMBER: 139:356121
TITLE: Itaconic acid derivative, its composition, liquid crystalline polymer from it, and its uses
INVENTOR(S): Harufuji, Tatsuji
PATENT ASSIGNEE(S): Chisso Corp., Japan; Chisso Petrochemical Corporation
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2003313252 | A2 | 20031106 | JP 2002-119645 | 20020422 |
| PRIORITY APPLN. INFO.: | | | JP 2002-119645 | 20020422 |

OTHER SOURCE(S): MARPAT 139:356121

AB Itaconic acid derivative R1A1Z1A2(Z2A3)mO(CH2)nO2CC(:CH2)CH2CO2R2 [I; R1 = H, F, Cl, isocyanato, (un)substituted C1-20 alkyl; R2 = (un)substituted C1-20 alkyl; A1-A3 = (un)substituted 1,4-cyclohexylene, 1,4-cyclohexenylene, 1,4-phenylene, etc.; Z1, Z2 = single bond, CO2, CF2O, CH2O, CH2CH2, etc.; m = 1, 0; n = 1-20] is claimed. Polymer of I shows good heat and light **resistance** and is useful for an optical compensation film, an optical recording material, and a liquid crystalline alignment film.

IC ICM C08F222-14
ICS C07C069-593; C07D213-30; C07D239-26; G02B005-30

CC 74-13 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 25, 37, 75

ST itaconate liq cryst polymer optical material; compensation film optical polyitaconate liq cryst; optical recording material polyitaconate liq cryst; liq cryst alignment film itaconate polymer

IT Liquid crystal displays
Liquid crystals, polymeric
Optical recording materials
(itaconic acid derivative as monomer for liquid crystalline polymer for optical material)

IT Optical instruments
(retarders; itaconic acid derivative as monomer for liquid crystalline polymer for optical material)

IT 4286-55-9 57718-07-7 81936-33-6, 4-(trans-4-Propylcyclohexyl)phenol
RL: RCT (Reactant); RACT (Reactant or reagent)
(itaconic acid derivative as monomer for liquid crystalline polymer for optical material)

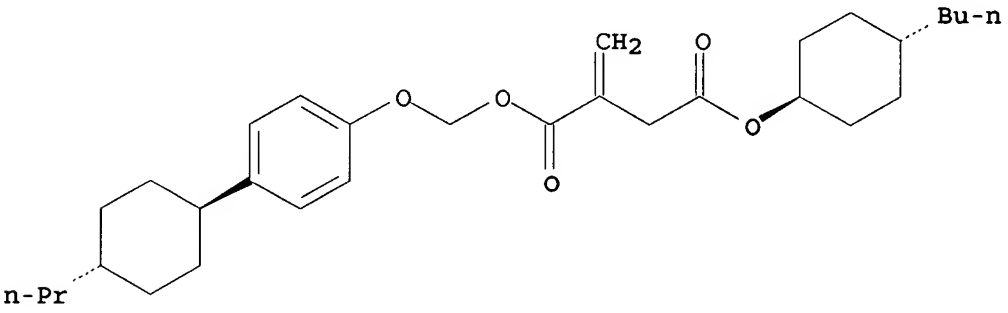
IT 57718-09-9P 104473-60-1P 133079-66-0P 175465-33-5P 577991-54-9P
618905-70-7P 618905-71-8P 618905-72-9P 618905-73-0P 618905-74-1P
618905-76-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(itaconic acid derivative as monomer for liquid crystalline polymer for optical material)

IT 618905-77-4P **618905-78-5P** 618905-79-6P 618905-80-9P
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(itaconic acid derivative as monomer for liquid crystalline polymer for optical material)

IT **618905-78-5P**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(itaconic acid derivative as monomer for liquid crystalline polymer for optical material)

RN 618905-78-5 HCAPLUS
CN Butanedioic acid, methylene-, 4-(trans-4-butylcyclohexyl) 1-[[4-(trans-4-propylcyclohexyl)phenoxy]methyl] ester (9CI) (CA INDEX NAME)

Relative stereochemistry.

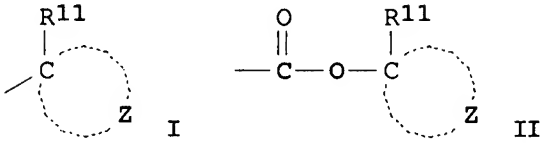



L14 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:454439 HCAPLUS
DOCUMENT NUMBER: 133:96789
TITLE: Positive-working **photoresist** composition for far UV ray exposure
INVENTOR(S): Sato, Kenichiro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2000187327 | A2 | 20000704 | JP 1998-327056 | 19981117 |
| PRIORITY APPLN. INFO.: | | | JP 1998-293986 A | 19981015 |

GI



I II

AB The title **photoresist** composition contains (a) a compound which generates an acid by irradiation with activated ray or radiation and (b) a resin which contains alkali-soluble groups protected with ≥1 of acid-cleaving alicyclic hydrocarbon-containing partial structures I, CR12R13R14, CH(OR15)R16, CR19R21CR17:CR18R20, CR22R25CHR23COR24, and II (R11 = Me, Et, Pr, iso-Pr, Bu, iso-Bu, sec-Bu; Z = atoms required to form an alicyclic hydrocarbon group with the C atom; R12-16 = C1-4 alkyl, alicyclic hydrocarbon; ≥1 of R12-14, or R15 or R16 are alicyclic hydrocarbons; R17-21 =straight-chain or branched alkyl or alicyclic hydrocarbon, ≥1 of R17-21 is an alicyclic hydrocarbon, R19 or R21 is a C1-4 alkyl or alicyclic hydrocarbon; R22-25 = C1-4 alkyl or alicyclic hydrocarbon, ≥1 of R22-25 is an alicyclic hydrocarbon), and (c) a low-mol.-weight compound having hydrophilic functional and cyclic hydrocarbon groups or a naphthalene compound having hydrophilic functional groups. The composition shows improved developability and high sensitivity toward far UV rays including excimer laser beams and give ultra-fine patterns.

IC ICM G03F007-039
ICS G03F007-20; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)

ST pos **photoresist** alkali sol resin alicyclic hydrocarbon blocked; photoacid generator pos **photoresist**; sulfonic acid pos **photoresist**; hydrophilic functional group compd pos **photoresist**

IT Positive **photoresists**
(UV; pos.-working **photoresist** composition for far UV ray exposure)

IT 108-67-8, Mesitylene, reactions 945-51-7, Diphenyl sulfoxide 2795-39-3 12027-06-4, Ammonium iodide 20667-12-3, Silver oxide (Ag2O)
RL: RCT (Reactant); RACT (Reactant or reagent)
(photoacid generator preparation from; pos.-working **photoresist** composition for far UV ray exposure)

IT 66003-78-9, Triphenylsulfonium triflate
RL: MOA (Modifier or additive use); USES (Uses)
(photoacid generator; pos.-working **photoresist** composition for far UV ray exposure)

IT 258341-99-0P
RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(photoacid generator; pos.-working **photoresist** composition for far UV ray exposure)

IT 83-56-7P, 1,5-Dihydroxynaphthalene 86-55-5P, 1-Naphthalenecarboxylic acid 90-15-3P, 1-Naphthol 92-70-6P, 3-Hydroxy-2-naphthalenecarboxylic acid 571-60-8P, 1,4-Dihydroxynaphthalene 581-96-4P, 2-Naphthylacetic

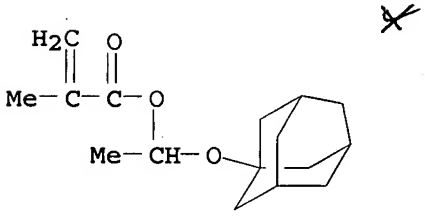
acid 828-51-3P, 1-Adamantane carboxylic acid 7432-73-7P 177080-68-1P
181531-13-5P, 2-Methyladamantyl methacrylate-3-oxocyclohexyl methacrylate
copolymer 244088-20-8P 279218-77-8P **279218-83-6P**
280123-19-5P 280123-22-0P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(pos.-working **photoresist** composition for far UV ray exposure)

IT **279218-83-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(pos.-working **photoresist** composition for far UV ray exposure)

RN 279218-83-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 1-(tricyclo[3.3.1.13,7]dec-1-yloxy)ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

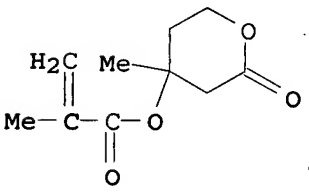
CM 1

CRN 279218-82-5
CMF C16 H24 O3



CM 2

CRN 177080-66-9
CMF C10 H14 O4

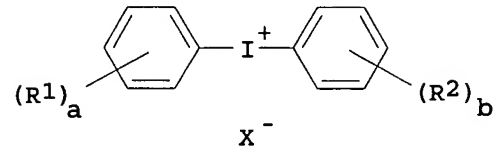


L14 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:440245 HCAPLUS
DOCUMENT NUMBER: 133:81565
TITLE: Positive-working **photoresist** composition for far UV ray exposure
INVENTOR(S): Sato, Kenichiro; Kodama, Kunihiko
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

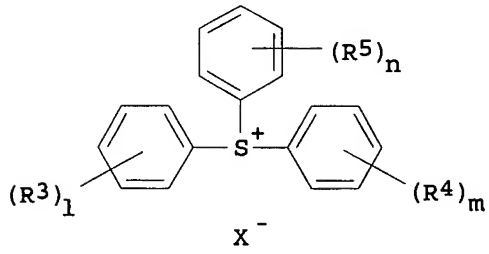
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2000181054 | A2 | 20000630 | JP 1998-327055 | 19981117 |
| JP 3476374 | B2 | 20031210 | | |
| PRIORITY APPLN. INFO.: | | | JP 1998-288108 A | 19981009 |
| OTHER SOURCE(S): | MARPAT 133:81565 | | | |

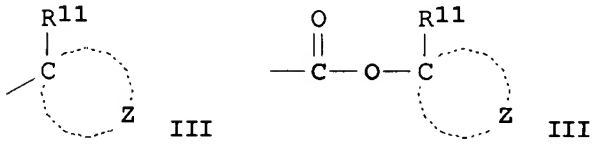
GI




I




II




III III

AB The title **photoresist** composition contains (a) a compound I or II [R1-5 = H, alkyl, cycloalkyl, alkoxy, alkoxycarbonyl, acyl, acyloxy (which may be substituted), NO2, halo, OH, CO2H, ≥1 of R1 and R2 is a C≥5 alkyl, cycloalkyl, alkoxy, alkoxycarbonyl, acyl or acyloxy group (substituted); a, b, l = 1-5; m, n = 0-5, when l + m + n = 1, R3 is an alkyl, cycloalkyl, alkoxy, alkoxycarbonyl, acyl or acyloxy group (substituted); X = RSO2 (R = aliphatic or aromatic hydrocarbon which may be substituted)] which generates a sulfonic acid by irradiation with activating ray or radiation and (b) a resin which contains alkali-soluble groups protected with ≥1 of alicyclic hydrocarbon-containing partial structures III, CR12R13R14, CH(OR15)R16, CR19R21CR17:CR18R20, CR22R25CHR23COR24, and IV [(R11 = Me, Et, Pr, iso-Pr, Bu, iso-Bu, sec-Bu; Z = atoms required to form an alicyclic hydrocarbon group along with the C atom); R12-16 = C1-4 straight-chain or branched alkyl or alicyclic hydrocarbon, ≥1 of R12-16 and either R15 or R16 are alicyclic hydrocarbons; R17-21 = H, C1-4 straight-chain or branched alkyl or alicyclic hydrocarbon, ≥1 of R17-21 is an alicyclic is a C1-4 straight-chain or branched alkyl or alicyclic hydrocarbon; R22-25 = C1-4 straight-chain or branched alkyl or alicyclic hydrocarbon, ≥1 of R22-25 is an alicyclic hydrocarbon] and is cleaved by the action of acid to increase the solubility to alkali. The solution of the composition in organic solvents shows improved storage stability and the composition exhibits high sensitivity

toward far UV rays, especially ArF excimer laser beam.

IC ICM G03F007-004
ICS G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)

ST pos working **photoresist** excimer laser

IT Positive **photoresists**
(pos.-working **photoresist** composition for far UV ray exposure)

IT 258341-95-6P 258341-96-7P 258341-97-8P 258341-98-9P 258341-99-0P 279218-73-4P 279218-74-5P 279218-75-6P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photo acid generator; pos.-working **photoresist** composition for far UV ray exposure)

IT 177080-68-1P 181531-13-5P, 3-Oxocyclohexyl methacrylate-2-methyladamantyl methacrylate copolymer 279218-77-8P 279218-79-0P 279218-81-4P **279218-83-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(pos.-working **photoresist** composition for far UV ray exposure)

IT 279218-84-7P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of; in preparation of photo acid for pos.-working **photoresist** composition)

IT 79-21-0, Peracetic acid 108-67-8, Mesitylene, reactions 576-26-1, 2,6-Xylenol 591-50-4, Iodobenzene 945-51-7, Diphenylsulfoxide 1493-13-6D, Trifluoromethanesulfonic acid, salts 1818-07-1, n-Octyl phenyl ether 2049-95-8, tert-Amylbenzene 2189-60-8, Octylbenzene 2795-39-3 2926-27-4, Potassium trifluoromethanesulfonate 3240-34-4, Iodosobenzene diacetate 7758-05-6, Potassium iodate 12027-06-4, Ammonium iodide 29420-49-3, Potassium nonafluorobutanesulfonate 120193-44-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of; in preparation of photo acid for pos.-working **photoresist** composition)

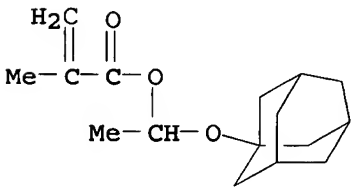
IT **279218-83-6P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(pos.-working **photoresist** composition for far UV ray exposure)

RN 279218-83-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 1-(tricyclo[3.3.1.13,7]dec-1-yloxy)ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

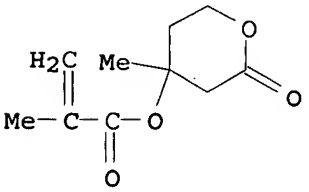
CM 1

CRN 279218-82-5
CMF C16 H24 O3



CM 2

CRN 177080-66-9
CMF C10 H14 O4



L14 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:631994 HCAPLUS
DOCUMENT NUMBER: 129:308515
TITLE: Thermal fixation of electrophotographic image using fixing roller with silicone oil coating
INVENTOR(S): Isobu, Kazuya; Shirase, Akizo; Kobayashi, Yoshiaki
PATENT ASSIGNEE(S): Konica Co., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 10260601 | A2 | 19980929 | JP 1997-67563 | 19970321 |
| US 5817443 | A | 19981006 | US 1997-958307 | 19971027 |

PRIORITY APPLN. INFO.:
JP 1996-288029 A 19961030
JP 1996-291592 A 19961101
JP 1997-67563 A 19970321

AB The process uses a fixing roller having a coating film of a silicone oil represented by [Si(CH2)nRfXO] (X = C1-4 saturated hydrocarbon, aryl; Rf = C2-10 fluoroalkyl; n = 1-4). The to-be-fixed image comprises a toner satisfying G'160 500-1200, G'180 300-1000, G"160 1500-3000, and G"180 800-2300 dyne/cm2 (G', G" = storage and flexural modulus at the temperature described at each bottom, resp.). The toner may satisfy SLp/SHp 5-15 [SLp, SHp = THF-soluble fraction area of mol. weight 0.15-8 (+ 104) and that of mol. weight 8-100 (+ 104), resp.]. The fixed image showed excellent offset **resistance** and high OHP transmittance.

IC ICM G03G015-20
ICS G03G009-08; G03G013-20

CC 74-3 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST electrophotog thermal fixation roller silicone coating; fluoroalkyl branched silicone fixation roller coating; offset **resistant** image electrophotog toner modulus

IT Polysiloxanes, uses
RL: DEV (Device component use); USES (Uses)
(F-containing; thermal fixation of electrophotog. image using fixing roller with silicone oil coating)

IT Electrophotography

(fixation; thermal fixation of electrophotog. image using fixing roller with silicone oil coating)

IT Electrophotographic apparatus
(rollers, coatings; thermal fixation of electrophotog. image using fixing roller with silicone oil coating)

IT 159755-56-3D, Me, nonafluorobutylethyl, trimethylsilyl-terminated
RL: DEV (Device component use); USES (Uses)
(fixation roller coating; thermal fixation of electrophotog. image using fixing roller with silicone oil coating)

IT 110098-34-5P 125496-18-6P **214401-20-4P 214401-21-5P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(toner binders; thermal fixation of electrophotog. image using fixing roller with silicone oil coating)

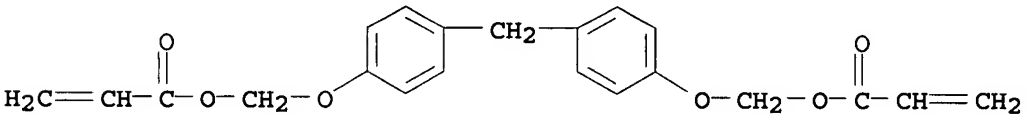
IT **214401-20-4P 214401-21-5P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(toner binders; thermal fixation of electrophotog. image using fixing roller with silicone oil coating)

RN 214401-20-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with butyl 2-propenoate, ethenylbenzene and methylenebis(4,1-phenyleneoxymethylene) di-2-propenoate (9CI) (CA INDEX NAME)

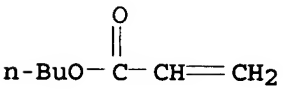
CM 1

CRN 214401-19-1
CMF C21 H20 O6



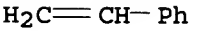
CM 2

CRN 141-32-2
CMF C7 H12 O2



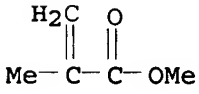
CM 3

CRN 100-42-5
CMF C8 H8



CM 4

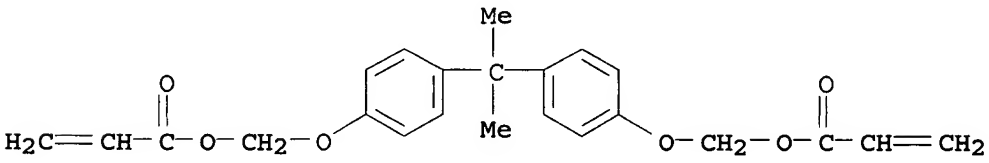
CRN 80-62-6
CMF C5 H8 O2



RN 214401-21-5 HCAPLUS
CN 2-Propenoic acid, (1-methylethylidene)bis(4,1-phenyleneoxymethylene) ester, polymer with butyl 2-propenoate, ethenylbenzene and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

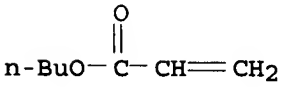
CM 1

CRN 123831-01-6
CMF C23 H24 O6



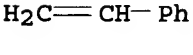
CM 2

CRN 141-32-2
CMF C7 H12 O2



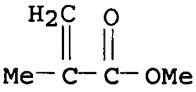
CM 3

CRN 100-42-5
CMF C8 H8



CM 4

CRN 80-62-6
CMF C5 H8 O2



L14 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:197349 HCAPLUS
DOCUMENT NUMBER: 128:263946
TITLE: Novel polymers and **photoresist** compositions
INVENTOR(S): Uday, Kumar
PATENT ASSIGNEE(S): Shipley Co., LLC, USA
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 829766 | A2 | 19980318 | EP 1997-115532 | 19970908 |
| EP 829766 | A3 | 19980701 | | |
| EP 829766 | B1 | 20030212 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| US 6090526 | A | 20000718 | US 1996-706138 | 19960913 |
| JP 2000029215 | A2 | 20000128 | JP 1997-291498 | 19970916 |

PRIORITY APPLN. INFO.: US 1996-706138 A 19960913

AB The present invention provides novel polymers and **photoresist** compns. that contain such polymers as binder components. The polymers of the invention include repeating units that contain acetalester or ketalester moieties. Preferred **photoresists** of the invention are chemical-amplified pos.-acting compns. that contain polymers with acetalester or ketalester moieties as binder components that can react to provide solubility differences in the presence of photochem. generated acids.

IC ICM G03F007-039
ICS C08F120-26

CC 74-5 (Radiation Chemistry, **Photochemistry**, and Photographic and Other Reprographic Processes)

ST acetalester polymer chem amplified pos **photoresist**

IT Positive **photoresists**
(chemical amplified; acetalester and ketalester polymer binders for)

IT 205367-37-9P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(chemical amplified pos. **photoresists** containing)

IT 193345-23-2P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and use as photochem. acid generator for chemical amplified **photoresists**)

IT 205367-41-5P, 4-Acetoxystyrene-isobornyl methacrylate-1-propyloxy-1-ethyl methacrylate copolymer 205367-45-9P 205367-49-3P 205367-53-9P 205367-56-2P 205367-60-8P **205367-64-2P** 205367-66-4P 205367-68-6P **205367-72-2P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation and use in chemical amplified pos. **photoresists**)

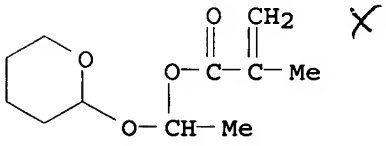
IT 98-06-6, tert-Butylbenzene 108-24-7, Acetic anhydride 5872-08-2
7758-05-6, Potassium iodate
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(reaction in preparation of photochem. acid generator for chemical amplified **photoresists**)

IT **205367-64-2P 205367-72-2P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation and use in chemical amplified pos. **photoresists**)

RN 205367-64-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, diphenylmethyl ester, polymer with 4-ethenylphenol and 1-[(tetrahydro-2H-pyran-2-yl)oxy]ethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

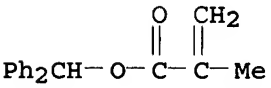
CM 1

CRN 205367-63-1
CMF C11 H18 O4



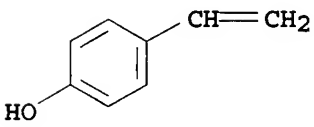
CM 2

CRN 25574-72-5
CMF C17 H16 O2



CM 3

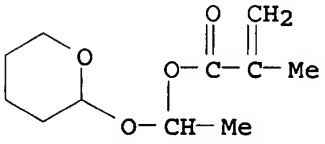
CRN 2628-17-3
CMF C8 H8 O



RN 205367-72-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-[(tetrahydro-2H-pyran-2-yl)oxy]ethyl ester, polymer with 4-ethenylphenol and exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

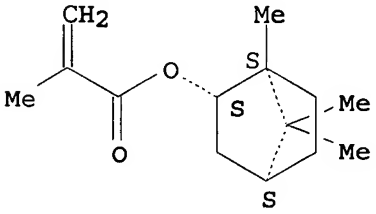
CRN 205367-63-1
CMF C11 H18 O4



CM 2

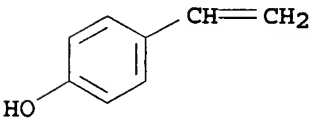
CRN 7534-94-3
CMF C14 H22 O2

Relative stereochemistry.



CM 3

CRN 2628-17-3
CMF C8 H8 O



L14 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:594565 HCAPLUS
DOCUMENT NUMBER: 127:248875
TITLE: Polymers and photosensitive resin compositions using the same, and high-resolution heat-**resistant** pattern formation therefrom by far-UV lithography
INVENTOR(S): Iwasa, Shigeyuki; Maeda, Katsumi; Nakano, Kaichiro; Hasegawa, Etsuo
PATENT ASSIGNEE(S): NEC Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| JP 09221526 | A2 | 19970826 | JP 1996-309742 | | 19961120 |
| JP 2845225 | B2 | 19990113 | | | |
| US 5994025 | A | 19991130 | US 1996-763054 | | 19961210 |
| PRIORITY APPLN. INFO.: | | | JP 1995-322039 | A | 19951211 |
| | | | JP 1996-309742 | A | 19961120 |

AB The title polymers are [CH2C(R1)(CO2R2)]x[CH2C(R3)[CO2C(R4)(R5)(OR6)]]y[CH2C(R7)(CO2H)]z (R1, R3, R7 = H, Me; R2 = C7-13 bridged cyclohydrocarbyl; R4 = H, C1-2 hydrocarbyl; R5 = C1-2 hydrocarbyl; R6 = C1-12 hydrocarbyl with or without 1-12 alkoxy or C1-13 acyl substituent; x + y + z = 1; x = 0.1-0.9; yr = 0.1-0.7; z = 0-0.7) with Mw 1000-1,000,000 and used with photochem. acid generators for pattern making with light with wavelength 180-220 nm. Fancryl FA-513A, 1-ethoxyethyl methacrylate, and methacrylic acid were copolymd. in 5:3:2 molar ratio and the resulting copolymer was used with N-hydroxysuccinimide toluenesulfonate with line and space resolution 0.20 μm at exposure about 30 mJ/cm2.

IC ICM C08F220-28
ICS C08F220-06; C08F220-18; C09D133-14; G03F007-039; H01L021-027

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): **74**, 76

ST **photoresist** acrylic far UV lithog

IT Heat-**resistant** materials
**Photoresists**
(acrylic polymers and photosensitive resin compns. using the same, and high-resolution heat-**resistant** pattern formation therefrom by far-UV lithog.)

IT 182073-92-3P 182073-93-4P 182073-94-5P 182073-95-6P 182073-96-7P 195816-03-6P 195816-05-8P 195816-07-0P **195816-08-1P** 195816-10-5P 195816-12-7P 195816-14-9P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(acrylic polymers and photosensitive resin compns. using the same, and high-resolution heat-**resistant** pattern formation therefrom by far-UV lithog.)

IT 51920-52-6P, 1-Ethoxyethyl methacrylate 85997-75-7P, 1-Butoxyethyl methacrylate **143556-62-1P**, 1-Cyclohexyloxyethyl methacrylate 181894-78-0P, 1-(2-Methoxyethoxy)ethyl methacrylate 181894-79-1P 181894-80-4P 181894-81-5P 195816-04-7P 195816-06-9P 195816-09-2P, 1-(2-Ethoxyethoxy)ethyl methacrylate 195816-11-6P, 1-(2-Butoxyethoxy)ethyl methacrylate 195816-13-8P, 1-(2-Butyryloxyethoxy)ethyl methacrylate
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(acrylic polymers and photosensitive resin compns. using the same, and high-resolution heat-**resistant** pattern formation therefrom by far-UV lithog.)

IT 79-41-4, reactions 109-92-2 110-75-8, 2-Chloroethyl vinyl ether 111-34-2 929-62-4, Octyl vinyl ether 1663-35-0, 2-Methoxyethyl vinyl ether 2182-55-0 7319-16-6, Methyl propenyl ether
RL: RCT (Reactant); RACT (Reactant or reagent)
(acrylic polymers and photosensitive resin compns. using the same, and high-resolution heat-**resistant** pattern formation therefrom by far-UV lithog.)

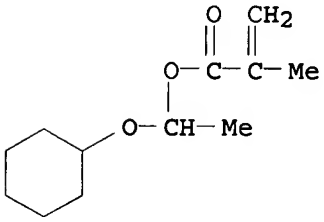
IT **195816-08-1P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(acrylic polymers and photosensitive resin compns. using the same, and high-resolution heat-**resistant** pattern formation therefrom by far-UV lithog.)

RN 195816-08-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1-(cyclohexyloxy)ethyl 2-methyl-2-propenoate and octahydro-4,7-methano-1H-inden-5-yl 2-propenoate (9CI) (CA INDEX NAME)

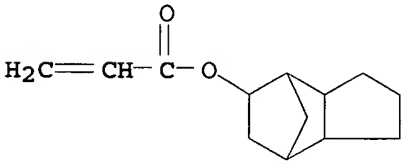
CM 1

CRN 143556-62-1
CMF C12 H20 O3



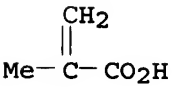
CM 2

CRN 7398-56-3
CMF C13 H18 O2



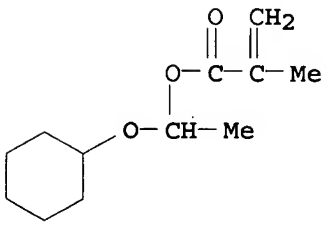
CM 3

CRN 79-41-4
CMF C4 H6 O2



IT **143556-62-1P**, 1-Cyclohexyloxyethyl methacrylate
RL: IMF (Industrial manufacture); RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(acrylic polymers and photosensitive resin compns. using the same, and high-resolution heat-**resistant** pattern formation therefrom by far-UV lithog.)

RN 143556-62-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(cyclohexyloxy)ethyl ester (9CI) (CA INDEX NAME)



L14 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:109600 HCAPLUS
DOCUMENT NUMBER: 120:109600
TITLE: **Hemiacetal** or hemiketal ester-protected functional group-containing vinyl polymers for coatings
INVENTOR(S): Azuma, Ichiro; Iwamura, Goro; Takezawa, Shoichiro; Oooka, Masataka; Yamamura, Kazuo
PATENT ASSIGNEE(S): Dainippon Ink & Chemicals, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 05186739 | A2 | 19930727 | JP 1992-3841 | 19920113 |
| PRIORITY APPLN. INFO.: | | | JP 1992-3841 | 19920113 |

AB Storage-stable, acid- and scratch-**resistant** coatings contain title polymers, polymers containing ≥2 epoxy groups, and OH-reactive hardeners. A composition containing Super-Beckamine L 117, Bu acrylate (I)-Bu methacrylate (II)-glycidyl methacrylate-styrene (III) copolymer, and I-II-III-1-(iso-butoxy)ethyl methacrylate showed good storage stability at 40° for 20 days.

IC ICM C09D163-00
ICS B05D001-36; B05D007-24; C09D161-20; C09D175-04; C09D201-06
ICA C08G059-40
CC 42-10 (Coatings, Inks, and Related Products)
ST **hemiacetal** ester blocked vinyl polymer coating; hemiketal ester blocked vinyl polymer coating; storage stability blocked vinyl polymer; scratch **resistance** coating blocked vinyl polymer
IT Acrylic polymers, preparation
RL: PREP (Preparation)
(**hemiacetal**- or hemiketal-blocked, for coatings with storage stability)
IT Coating materials
(storage-stable, **hemiacetal** or hemiketal ester-protected functional group-containing vinyl polymers for, preparation of)
IT 152330-08-0 152330-09-1 152330-10-4 152330-11-5 152330-12-6 152330-13-7 152330-14-8 152956-42-8
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, from **hemiacetal**- or hemiketal-blocked acrylic polymers, acid- and scratch-**resistant**)
IT 152330-04-6P **152330-05-7P** 152330-06-8P 152330-07-9P 152381-90-3P
RL: **PREP (Preparation)**

(preparation of, coatings containing, storage-stable)

IT **152330-05-7P**

RL: **PREP (Preparation)**

(preparation of, coatings containing, storage-stable)

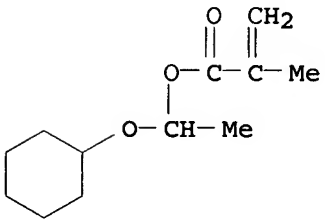
RN 152330-05-7 HCAPLUS

CN 2-Propenoic acid, methoxy-, 3-(trimethoxysilyl)propyl ester, polymer with butyl 2-methyl-2-propenoate, butyl 2-propenoate, 1-(cyclohexyloxy)ethyl 2-methyl-2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 143556-62-1

CMF C12 H20 O3

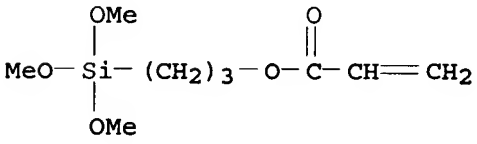


CM 2

CRN 34215-73-1

CMF C10 H20 O6 Si

CCI IDS

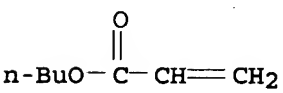


D1—O—Me

CM 3

CRN 141-32-2

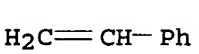
CMF C7 H12 O2



CM 4

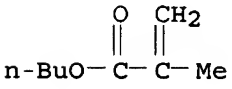
CRN 100-42-5

CMF C8 H8



CM 5

CRN 97-88-1
CMF C8 H14 O2



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